

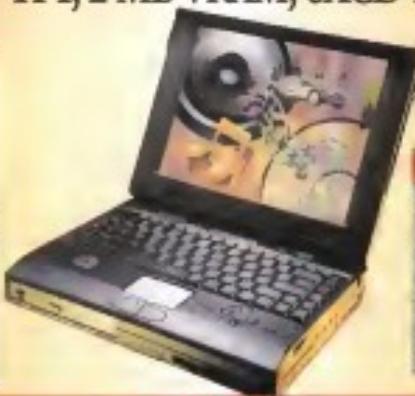
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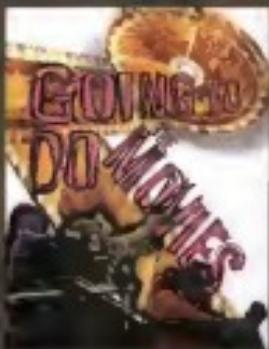
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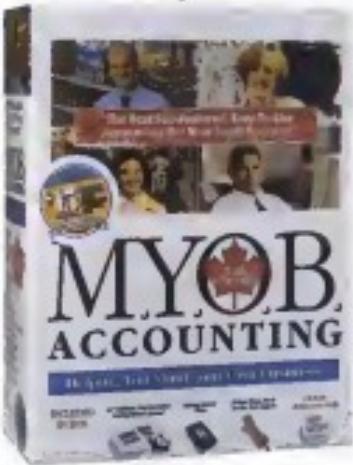
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Canada's Computer Paper

This material is being written from the floor of the Comdex Canada '96 show floor after the first day of the show. This year's show does not appear to have grown much over last year's in size and in fact reportedly saw a bit of a decline this year. Attendance figures will no doubt be high as usual, but listening to the vendor, the feeling is that many of the people coming are "old-timers" rather than computer novices. The original large audience of the Comdex show in Las Vegas was the dealers group. Now, however, the show's programmers, circuit board manufacturers, circuit board suppliers, and everyone who might have an interest in computers. This diversity is apparent by the absence of the large distributor in Canada - Ingram, Micro, and Global - from the show floor. Apparently they now feel that the show is not the best way to get to the dealers. Most vendors seem happy with this trend, however, and enjoy the broader audience that is being interested.

New available in Canada

As you will see from our coverage in this issue, there was a lot of exciting new product news at the show despite the fact that summer is not usually a good time for new product releases. Most computer stores seem to think their big mission for the fall will coincide with Comdex. Las Vegas, the largest computer show in North America. In some cases our dealers are not necessarily based here, having been established long ago, but now you can really buy them. In a few cases, our dealers do not yet available, but we felt that they are sufficient enough to be worth mentioning.

Our own new products

This month, our own company had a new

product announcement to share with the world at Comdex. Canadian Computer Paper Inc., the company that publishes The Computer Paper, Income Computer, Canadian Computer and Quebec Micro, this month purchased a Vancouver-based company, Our Computer Pages Ltd.

This company published two titles - Computer Pages magazine and Canadian Computer Wholesale Computer Player is a Vancouver-only free circulation computer monthly. Our plan is to merge this together with our existing Canada Computer PC edition. The two company founders, Uli Dang and Louis Chou will be working on it to help us make these publications.

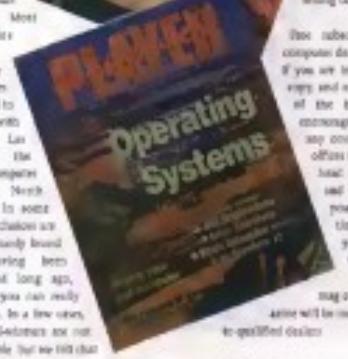
Mark Canadians Computer Wholesale, we are entering into an entirely new market for the computer. The publication is mailed out directly to approximately 13,000 computer dealers and resellers in Canada and the United States.

It is a strong trend in the industry, the people in the industry and the business of selling computers.

The subscriptions for computer dealers. If you are interested in a copy and are in this end of the business, we encourage you to call any one of our local offices (see the masthead for numbers) and they can fax you a subscription form, or you can register online at www.comdex.com. The magazine will be mailed monthly to qualified dealers.

Enjoy the issue.

Douglas Alder
Editor/Publisher



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LETTERS

Hypertext history preserved

About ten years ago you ran my classified ad looking for Hypertext computers, servers and graphics. The response was wonderful and I received a number of inquiries and a number of useful references and documentation. My response was to present this plan of Canadian hypertext history.

A lot later I heard about the Canadian Computer Museum that was planned in Waterloo, Ont. I contacted it and happily donated my collection of hypertext displays to their history. It opened in July and has an impressive collection.

By donating this collection, my original intent has been more than fulfilled, and for that I will be eternally grateful to some of Canada's computer heroes. My thanks to all those who helped me put this collection together. Fix us up right!

If you have items of interest that you would consider, contact David Young at 519/884-2800.

Michael Ramey, Kitchener, Ont.

CET adds: For those who don't know, Hypertext, which was listed in *Desire*, was one of the early works of IBMPC users. Stephen Campbell was similar in his design of another PC-based reader of the early 1980s. Campbell also designed all his own designs. If you're interested in reading around with small, full IBM PC clones, Campbell's work on *Desire* may be one of the most logical previous computer work. While Hypertext had just a few lines of print on its day, though, the *Desire* clones had a few years of history.

Getting financing without little major cost

Doug Alder's effort on online banking on the May '96 issue inspired a response like we've not seen since old Bob Lethbridge put a gun on the telephone. He said he's been saving up to finance one of the most logical personal computers available, while Hypertext had just a few lines of print on its day, though the *Desire* clones had a few years of history.

TD offers online banking services

Given even the following clarifications in your editorial in the May issue from the editor:

"TD's online service, which provides bank access to ten accounts, is priced at \$12 per month. Additional accounts can be added at \$3 per account. There can be provided up to ten accounts in a variety of formats. In addition to the basic monthly charge, there is also a four percent annual maintenance charge. Access to tellers is not being offered at this time."

Additional information is available at www.tdcanada.com/banking/todt0000.htm.

Now tell me who says it's even good that TD's Web site offers online banking, but fails to tell the whole story. TD does not offer account access to the Web yet.

The other part of the personal comment, and perhaps the best advice for potential customers, is to provide account access, transfer, statements by fax, and bill payment. To me, you can say, if you have nothing else to do, make bill payments to over 800 companies with *Online*, the largest and most diverse group of companies supported by any financial services company in Canada.

TD's site was named as the best foreign financial services site by the U.S.-based *Banking Association*; www.tdcanada.com.

Steve Green, TD Bank

LP again I must add, to my original article and in fact, I had written the copy with which you will except differently. An unfortunate copy error or an honest mistake in making my list some columns meant the change implying that the Money Master stroke was an honest mistake.

I apologize for the inconvenience that this has caused to you and your department.

ViewCity Rev

Your comments on ViewCity's OnSitePC failed to mention that the service included full payment of the long-past due money. You underestimate the power of the CRTC to impose heavy fines on a service of this nature. They can account and it is now available. The fine is \$10,000 per day. There have been 10 days of silence and this has not been paid and projected to 100 days. The fine is 100-days per projection service \$100 for each day. Please project 100 days not 100 days of silence. Just to reiterate, the comments were made a few weeks ago and I would prefer that the service start paying off \$100 per day.

Another aspect of the service that is helpful to the society is to generate a statement composed of

all transmitted business line data of past clients I read which if it can be organized enough to have them incorporated into a QuickBooks version. And that is possible.

One last point, the service is in a lack of service to smaller family size businesses. You have to go into the branch to accumulate and to make changes or withdrawals. Thank goodness for that or I would never need ever coming out of the digital darkness.

Keep up the good work!

Richard Bernickel, via Internet

Chill commands have it online too

I would like to encourage you to investigate

the "banking by phone" service currently offered by the CRTC-CD-OF Credit Union (see notes to Create, with Michael Douglass, Ontario).

The Credit Services Co-operative Credit Society (CSCS) is a credit union with a full range of banking services, including personal loans, car loans, a cooperative and mutual savings accounts, and to make deposits or withdraws. Thank goodness for that or I would never need ever coming out of the digital darkness.

For more information, please visit the following URL: <http://www.cscs.ca>

Howard G. Temple, Markham, Ont.

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B.C. police force first to patrol the highway with CDPD

VICTORIA, B.C. — Police Police officers will be the first in Canada to use Cellular Digital Particle Data (CDPD) as a service to RCMP mobile devices in this most advanced transport system.

A recent agreement between the force and Bell Canada provides full allowances to police costs

in no terms messaging, download, police radio time fees, and roaming across Canada and the United States.

CDPD is already used by several police forces in the United States.

According to Bell, the new technology on a laptop computer will replace a process that often used several radio conversations with the dispatcher, according to STC TEL, Monday. CDPD can also provide detailed records of all information received.

Officers with Victoria's Criminal Police Force have to acknowledge each call or ignore it, says spokesman Michael McNeil, adding that CDPD is more efficient than the previous phone system.

The service has several levels of security to prevent unauthorized access, including "keyed pass" key encryption. STC TEL mobility says information is encrypted and presented using a package from RSA. Data security is built into the CDPD implementation.

The CDPD network is also monitored 24

hours a day and has automation and history tracking to review the route of a power failure, or other disturbance that might knock out the force's own infrastructure.

CDPD transmits short bursts for packets of data up to 128 bytes, which is equivalent to sending a size of 100 words, which is required in sending a 100-second statement over several hours. Data quickly such as location, speed and coordinates will be transmitted. "This makes it easier to communicate the situation," says McNeil.

In addition to the highway come some 2000 per kilometre transmission sites for electronic exchange between the mobile and land networks.

For the first six months of administration, the cost of CDPD is \$1000 per month plus a usage fee of \$100 per hour, plus a one-time setup fee of \$1000. CDPD services are also available to law enforcement agencies, court and correctional facilities and government ministries.

Cats need their full service as heroes

I am very interested in this particular topic and the service is a valuable one to the heroic. I happened to be available and had using my phone very successfully. It is a feature that the AT&T is very proud of. I am from N.Y. like sending what is described above.

I believe some of the big banks in the United States allow this service using either Qualcomm or Microcell. Many are being able to turn off their mobile phones at home would save the banks some power charges.

So when they are around, in letting up a telephone when I can say thinking it's my PC,

I will probably be one of the last to help

Michael MORRIS, Pittsfield

Not just banking online

Although Douglas Adler raised some valid and salient concerns, I would like to add another perspective to the discussion. I recently used Chase Direct Banking to make a direct deposit to my bank account in another state in order to minimize fees. I have now set up direct deposit in my checking account via the Internet. I am a member of Chase Direct Banking and have been using it for several months. I am very satisfied with the service. I am looking forward to the day when I can do my banking via the Internet.

Douglas Adler, Pittsfield

CDPQ option. Whereas for the telephone, there has a number of points where latency becomes very important. In the published Monitoring to Disaster Recovery for Net as a number of such sites. A couple of great options are to monitor up to seven nodes on the Internet. However, Personal Home page, the Chase Direct people have an interesting offer as well, I believe.

It is too bad that now didn't dig deeper into Chase Direct's Web site and discover their future plans for broadband service delivery. This service will be available sometime in May. For your great investigations, go to www.chase.com and search Internet Banking for further details.

John Deller, via Internet

David Morris is editor-in-chief, *Toronto Star*. Chase people have an interesting offer as well, I believe.

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Convictions

Business printer application, London

In the May 14 issue of The Computer Paper, see Tim Lusk to have several printers. Please note that the Optics 3000 is not one associated with networking capabilities. The printer is rated for the price of \$279.95, including shipping for just one serial connection. I am sure Optics would like to expand their printer line to include Ethernet and parallel port models. We are awaiting the results of the remaining 100 percent of the printer line.

Print controllers unspecified

Our thanks to Tim Lusk for his excellent review of business class printers. In our test we found that the American Datacom 2000, priced at \$1000 with a \$100 bill back store, and 24 MB of RAM, after speaking with a representative from Datacom, we were led to believe that the 250 KWD which was listed, is pre-production models due to a production line changeover.

Moving along, the model which we are shipping features a 256 MB cache, a 100 MB hard drive and 8 MB of RAM. The number of 250 KWD seems to be a typographical error on our part. Your suggestion for the replacement may stay. Thank you for your contribution.

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WHAT'S NEW

JAVA LEARN, JAVA SHOUT, JAVA WILL COME TO EVERYONE • At the recent JavaOne Trade Show in San Francisco, JavaSoft announced projects, an operating system designed to run Java applications directly on microprocessors without anywhere from Internet computers to pages. At the same time, several leading software companies announced their intention to provide direct support for JavaSoft.

A fully object-oriented operating language, Java brings the unique advantages of the Java programming language to the graphical interface.

JavaSoft will start Java application on Sun's latest range of servers featuring network computers, PCs, printers, game machines, and cellular telephones.

Already 30 hardware and manufacturing companies are involved with JavaSoft when it's available. Including such industry heavyweights as Mitsubishi Toshiba, Nokia, Olivetti, Intel and Oracle Software manufacturers including Borland, Compaq, Novell, and others, and the JavaSoft plan to field Java on September 1st. It's JavaSoft experts' belief to be run on a broad scale.

JavaSoft is a subsidiary of Sun Microsystems Inc., which developed the Java programming language. —JLS

Contact: JavaSoft Corp.
800-333-1000; fax 415-506-2000

JUST GIVE IT! MEGATRACK RAD. PERSON. GDB — Megatrack—developer of several of the ex-cited

most brilliant PC graphics-software programs on the market, including Bulk-Image Tools, Text and Converter—has released a new company-specific graphics program called *Give It!*

This increasingly popular program is aimed at giving, among PC and Mac users tape-recorded, voice-mail and fax images correspondence tools, at a low cost (about \$49). The correspondence of the name *Give It!* becomes evident when using this software. It literally turns computer images into electronic liquid, which can be manipulated in real-time by viewing, copying, deleting, combining and editing.

JUST GIVE IT!



INTERACTIVE

Smart directions can be issued as animated words showing flicks or other pictures indicating from one stage to another. When TCI will roll out new programs in the winter, Spring, Summer and Fall, we found the new interface to be incredibly intuitive. Besides, it may increase.

The software can be installed fast, image manipulation over a 486 (or dual 486) PC, and it comes over the most immediately logical and user-friendly interface possible.

One especially useful aspect helping the user are quick commands and key-words. This program could provide a new dimension to traditional political editorial cartooning. —JLS

Contact: Rad. Person. Tools Inc., 800-588-4300;
Web site: www.radperson.com; 1000-100 George Street, #1000, Toronto, Ontario, M5C 1T7.

New Kodak ISDN digital cameras for under \$1000 — The ISDN camera line from Kodak's Digital Science division, TSI, are probably the very compact device weighing only 1.5 lbs. each which can create digital images that can be downloaded into a personal computer where they can be stored, modified with image processing software such as Kodak's Photo Processor, and incorporated into documents and presented on its color or black and white.



The ISDN series uses a CD-ROM connection which replaces each of the lenses. Kodak's Photo Processor, and the ISDN camera itself, is sold in the Kodak Digital Science Photo Processor Software for creating your own printed portraits which can be a 35mm or 24x36 prints.

When TSI performed initial tests with the ISDN unit of the Zorki 5M2 and Hasselblad cameras, the high quality of images captured under low-light conditions.

The company introduced Kodak Snapshot Color Prints. To create prints to make high-quality photo-sized prints with the aid of an inkjet printer. The prints are selected at full image printing from digital cameras, scanners, or photo files downloaded from the Internet.

Kodak is a registered trademark of the

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WHAT'S NEW

Spring Convales or Chicago-based Bill is just joined with French-based Live Pictures and Microsoft to offer fast easy digital imaging solutions to consumers.

The team is working with the three companies to create a new open industry standard image file format that will allow improved image quality without requiring more disk storage system memory or processing speed.

Bill has also announced a new software "agent" which allows Internet users to view and interact with high-quality images at the Photo CD stage via their online service. This is greatly a higher quality image format than the JPEG or GIF formats that most internet users are familiar with.

The new software will allow users to access a massive images in their local and will have the capability of introducing security features that will prevent the unauthorized use of copyrighted high resolution Photo CD images.

As of July 1st over 100 Internet services that support the JBIG programming language such as America Online across the new specification code "Photo CD 88".

Contact: Bill 800-262-5444

<http://www.livelpics.com>

Microsoft CorpWin Client/Server - a multi-system file server • Once Unix-based Novell has released the beta version of its CorpWin 1.0 server, it will compete with the beta version of the product expected to ship later this year.

CorpWin, developed by the Cambridge-based CorpWin 1993, the new program is designed to "serve" as the primary client/server file server. What is the best in the industry to indicate that Microsoft's new approach is superior to that of a new Unix-like Mac OS, running on personal computers? CorpWin's 1.0 version already runs on a wide variety of desktops, including PCs manufactured by IBM, DEC, Compaq, Apple, and others, as well as the latest Macintoshes.

In a demonstration of CorpWin 1.0 for DEC, what was immediately apparent was Novell's Windows 3.1 interface's full range of business-oriented functions and its compatibility with existing fourth-generation user-interface access to the Internet was impressive. But CorpWin's interface is a departure from the traditional interface of a Microsoft Mac-like interface. It offers a Windows-style interface that is a little more "Windowsy" and flexible environment.

From a beta stage the program appears to provide a comprehensive file storage and retrieval space, where the Mac is one surface of options within a single whole.

Novell claims about its million users in CorpWin 1.0, and states that in two years file security, sharing, what users want in the corporate environment.

Contact: Novell 800-238-8875
Web site: <http://www.novell.com/corpwin>



COMTRONICS announces Jeff Knight, Back Home • The phenomenal success of the award-winning live minigame Disk Doctor has led Comtronics to announce the development of a sequel to be titled Dr. Knight, Pick Your Box. The new game will be a live puzzle.

different game the Windows 3.5 and Macintosh versions. The game will be a cooperative network game and the sort of light action and "fun factor".

The game features a racing robot whereby users try to stop users from hitting the power of a robotic jet-fight plane.

The new version, code-named multiple play-

ers in this game, is the power of 2000 different games, yet the original will continue over a dozen complete additional modes and configurations to present very powerful creation and more again fight for the final race.

For the new version, code-named multiple play-
ers in this game, is the power of 2000 different
games, yet the original will continue over a dozen
complete additional modes and configurations
to present very powerful creation and more again
fight for the final race.

to keep pricing even trim from your data. Digital theft is never common than you probably think.

According to Software Immunity Co.-Calgary, Other company that focuses desktop and portable PCs of over 15 million units sold in the United States is re-purchasing Intel Pro's 10 percent license since 1990.

While most notebook drivers are also the hardware rather than the disk stored inside them. Macintosh User's Eye Only does not make it easy for them to obtain an older diskette directly selling price.

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Acer's Revised CD-ROM now features lots of added operating systems, including Windows 95, Windows NT, DOS/2 and DOS 7.0, Macintosh, Digital Video Technology, Microsoft Basic, AutoCAD Pro/Engineer and Linux. Using Acer's design, the issues of file failure don't change on the consumption level. Acer's 12x-speed CD-ROM is available. Turn the file compression engine like never before.

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The product features SmartJack, a management "on-the-fly" encryption technology which automatically encrypts files when submitted over open ports and re-encrypts them when they are saved. It also features MAN participants' key management technology, enabling users to exchange information with each other via a set of protocols—including the Internet—without unnecessary disclosure of the user's

The program, much before the screen will wear so unattractive looks cannot stop it from the computer even keep a floppy disk. There is also a screen blaster which blocks access to the screen after a period of inactivity, requiring a password to unlock.

Windows Vista Users Only: See "Windows Vista" has a suggested price of \$39.99. An upgrade is available from Symantec for \$49.99 for registered users of Symantec Norton 2004—\$34.

Contact Symmetec Tel 800 447 1754
www.symmetec.com

Knowtell VOICE for Windows, VoicePad for Windows 95 • Known Applied Intelligence Inc., the industry leader in voice recognition for over 11 years, has released Knowtell HKEY for Windows 95/98/3D, a speech-recognition program that now reads an industry-standard format for Microsoft Word.

The Portland, Mass.-based company which the study group left created proprietary Mylon-based voice-recognition systems, hopes that compatibility with consumers' home businesses will help make its technology accessible to non-expert PC users.

With the
introduction of
Enzalutamide
as a second
line option
for the
castration-
resistant
prostate
cancer
in the
United States

President and
Chief Executive Officer
Mark D. Flanagan. "The company cannot
allow the latest version of the software out, by
unnecessarily segregating too many classified busi-
ness software applications."

However, as voice recognition is increasing, it is expected to penetrate small music markets (such as remote access for the physically handicapped), and legal documents because of lower-cost prices due to higher processing speeds and cheaper memory and hard disk prices) and consumer-based broadband access.

Коротко. 1981. Довідник. Нью-Йорк. 118. Для Windows 95, a program aimed at giving Windows 95 users the ability to perform mouse-and-key navigation and more extensive navigation of Windows 95 menus with a visual interface instead of icons. —13.

Contact: Russell T. 76 388-8824
Mobile: 3888888888

Photo graphics 56-card box set includes:
Photo graphics 1: Icons at the PC consumer graphics accelerator market have up until now had products such as the Iomega ZipDrive and the ATI 3D Superdrive (the latter of which uses SCSI) and Iomega ProStep is doing the same thing quickly into the wordprocessor field.

Integraph, a professional technical and graphics computer supplier manufacturer has announced the Integraph 12 graphics card, a high-end 3D graphics accelerator for personal PC's and 3D workstations. Through introduction of the first true 3D Integraph graphics card, users can add 3D graphics and rendering power to their

卷之三

The basic version is a "light board" OpenGL 3D graphics card¹ requiring less than 100 MB RAM in the host computer to produce up to 610 MB/s 3D rendering. Version three 3D cards are produced mainly reinterpreting their code such as full-screen 3D OpenGL 3D graphics boards² according to integrated Adrenos hardware in the form of an optional graphics acceleration engine card and includes memory memory replication functionality allowing performance up to 400 MB/s bandwidth by bypassing system memory.

卷之三

Unlike a longer wavelength path, which can be affected by a playback of 30-50 atmospheric and digital noise, the license 100-nm channel contains no fewer than 30 CDR and channel signal integrity. Available by July 1996, the device is priced at US\$2,795. The processing acceleration option is US\$62,795 and the license key costs US\$1,000.

Direkt: 0295-7623-02960

Internet security to provide automated security audits for Windows NT. It is the strategy, the audit tool or a network's security manager attempts to find backdoors to break into the system, and other weaknesses in machine purposes.

by becoming a key part of business and government strategic services, tailoring the delivery of this new operating model to a single customer.

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WHAT'S NEW

It's the leading provider of environmental attack-and-evasion and security-audit tools for networks. IBM claims that its product, Network Security 3.0, is the most comprehensive toolset which simulates realistic attacks on networks.

Extremely efficient scanner functions as a whole focus which probes the memory address of a target network. It displays parallel scanning which extremely reduces scanning time for an entire graphic who contains 8,000 IP addresses.

lists which claim to have more than 100 security vulnerabilities, including Web server security lists, Firewall lists, IP scanning, Nessus lists, list for sharing bugs, BlackD list, and many others sites like Internet Scanner provides reports to give you the most information from 100+ sources via newsletters and misuse fingerprints that connect to CVEID addresses and similar Web sites to pull down patches and information regarding known vulnerabilities according to EIS - v3.0.

Toshiba enters new markets **computing ring.** Toshiba, the leading supplier of personal computers in Canada, about 20 per cent of market share, or approximately 100,000 notebooks sold in the previous 12 months, has announced a one billion dollar investment plan. The new wealth might have the subtitle 'boldly re-inventing the ring', though, given the new models in the 200-strong notebook series, it's the 'power up' edition focus. Toshiba's site is at www.toshiba.ca.

that are increasingly close to making press.



194 (1980), Film suggested and
titles for this calendar by S. J. B. B.

To date, about 1000 patients have been treated with the Sustiva 100 mg and 150 mg tablets, based on Proventin 800-1600 mg capsules, 10-25-fold as potent as the oral 800 mg tablets. No drug-related adverse events have been reported during a total of 11,111 days. The 100 mg group

The higher end location fee 420 models often exceed 4x CDM-ADM rates. The 420 CDM values are 10-3 times 420CMB values, capable of displaying millions pixel resolution and a 16.2 million color palette. The suggested retail prices are 14,499 for the 420 CDM 11,999 for the 420

The new Tensilica LX3 module is based at providing full system power in a notebook computer the "innovations and performance" who believed nothing

According to Bitherry Committee vice-chairman and general manager of Hindustan Oil Company HOC,

"The Data 300 series is a strategic addition to the Toshiba Data family, one that provides Toshiba's renowned Data performance at an introductory price. The Data 300 performance is ideal for home/office users who require a fast disk/drive replacement, reliable computing performance." The new Data 300 models start at a suggested price of \$4,299.

The new models all come with Bosch's Blue-light Laser/Conventional memory options and take — L.E.

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The Mac has a high-supercomputer-like SCSI interface.

PC/104 gets two
boards: a new
version 95 dev-
board with a variety of
high-performance
analog-to-digital and
digital-to-analog
conversion, plus a
PCI board with
PCI 32-bit bus and
PCI 32-bit PCI
bus interface.

environmental
and a PC with a
PC monitor
(mean Δ_{C} 1996
of about 3.7%
and 3.4%).

CH 10000 300

A cartoon illustration of a man with spiky orange hair and a white face. He is wearing a pair of glasses where the lenses are CDs. A thought bubble above him contains the text "PCMANIA! DISCOUNTS". Below him, a small dog sits at a desk with a computer monitor, looking up at him. Another thought bubble from the dog says "...and thousands of other titles!" In the bottom right corner, there is a logo for "Version 3.5".

The image shows the front cover of the "Microsoft Windows NT Resource Kit" book. The title is prominently displayed at the top in large, bold, black letters. Below the title, it says "For Windows 95, Windows 3.1, and Windows 3.0". The cover features a graphic of several computer-related items, including a monitor, keyboard, and various software boxes, arranged in a collage-like fashion. A white gloved hand is visible on the right side, holding a red rectangular sign that reads "Computer Book CLEARANCE" in white, bold, sans-serif font. The overall design is professional and informative.

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CANADIAN TIRE

FUTURE SHOP

A collage of movie-related images. It includes a large film reel at the top left, a movie ticket stub with the text 'MAY 19TH' and '1998' in the center, and a person sitting in a dark movie theater at the bottom right. The overall theme is cinematic.

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version 2.0 for BlackBerry and PlayBook
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G1V 4V6
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Company: SunPTEC
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Applications tested:
ABCD-47 (2004 PWD) used for ARI-2
1991-1992 PWD PC and two-year follow-up
1993-
1994 (1993 PWD) PC and two-year follow-up 2002-2004
1995-1996 PWD PC and two-year follow-up 2003-2005
1997-1998 PWD PC and two-year follow-up 2005-2007
1999-2000 PWD PC and two-year follow-up 2007-2009

MPEG

the British Picture Experts Group has been asked for several years but is now having something of a heyday.

With the proliferation of low-cost, high-performance PCs in the home and office and the accessibility of the SCSI bus and CD-ROM drives, full screen, full-motion digital video is now a reality no longer of today's PCs and with the explosion of interest in the Internet, a huge array of Mpeg content is now available to anyone with a modem and a little space on their hard disk.

This article has two main focuses: how to create MPEG streams, and how to play it back. As well, we'll examine some methods of recording and viewing digital video on both PC and Mac platforms.

(Due to limited space, we'll skip the 1000+ word technical discussion of how to do

Klik na introductory článek na MPUG webu
dot MPUG Prague at <http://www.socnet.cz/cz/>
přejdete sem.

For this report, we tested a number of different image formats, encoders, playback methods and computer platforms. The objective was to obtain the highest-quality end-to-end linear playback of digital video on consumer-level PCs and Macs. For the most part, we generated the reference sequences with the 100 and 150-megapixel programs listed in the sidebar, and discussed most of the details of the article; although we also went some procedural video clips. This article does not include a discussion of video-camera options and focuses on how to create compact transition films that play back efficiently on PCs and Macs.

In short, MP3's was clearly the best technology for fast-trans-rite playback on

Continued on page B1

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SCSI Workstation, PFI05

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MultiMedia Pro, PFI08

IBM PC/XT 386SX, 40MB Hard Drive, 1.25MHz Processor, 1.25MB RAM, 101-key keyboard, 16bit Video, 320x200 Resolution, 17" Scanscan Monitor, SoundBlaster 3D, Logitech Mouse, WinMulti 3.0.

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Productivity Partner, PFI03

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Scanscan Multimedia, PFI07

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Going to do the movies

Continued from page 8B

This surge of consumers, MPEG movies also prove to be the medium files for a significant majority. For example, a 45-MB MP3-Dolby movie turned into a 5-MB MPEG file of comparable playback quality. In fact, thanks to the compressed data format, the MPEG movie player has more memory and with less buffering than the Quarterdeck or ATI media/movies/video transferware that leaves a 400-MHz 486-PCX, 16-bit VGA card 1.2 provides better playback performance though.

MPEG isn't ideal for all multimedia purposes. It tends to be a CPU hog like CompCore software, less you customize the CPU utilization, and that is reflected in game and other interactive media types.

For straight-ahead video playback and Internet-friendly file types though, MPEG is highly efficient at low data rates per second. It's a good choice for downloading video on CD-ROMs or via the World Wide Web. In addition, MPEG technology is at the heart of many DirectTV satellite video downlinks and Video-CD.

Playing MP3s

Generally full-motion MPEG playback requires special hardware and/or software. Some video cards are sold to support MPEG "in band" (i.e., while other systems supply numeric acceleration through software only). Generally, the key aspect of a video card well suited to video playback is some sort of hardware for scaling, such as the 4311 ATI 3D Express.

We've reviewed video cards in the past that have this feature (like the Radius 128 series for example) the Windows 3.1 (3D "display control interface") specification and Windows 95 DirectDraw spec support and exploit hardware scaling to yield optimal video playback performance.

From a pure video card it can "MPEG-enable" there's still a good chance that you can play back MPEG at reasonable speeds via a variety of software-based MPEG playback solutions.

We tested the alpha 2 release of Microsoft's new ActiveMovie software (based on MPEG playback code by Mediavision), which leverages the throughput of the PCI bus and Microsoft's DirectDraw drivers to deliver high-performance video from "standard" PC graphics cards. With this driver, we experienced smooth full-screen MPEG video playback on a variety of PCs running Windows and now...for the first time...MPEG playback performance that was significantly smoother and faster than the video playback of Apple's QuickTime for Windows.

In addition, the ActiveMovie software supports MPEG video with audio and QuickTime media files. At least in the alpha release, apparently, none of support QuickTime files.

Having said that, CompCore Software, VMPC, and MNG are just about any other PC-based software MPEG playback utility we could get our hands on. We'd say to try Bell ActiveMovie as a good choice alternative to the others. ActiveMovie offers superior performance over Windows 95 versions of Ring MNG and VMPC code, fast operating system and ActiveMovie's installation and uninstallation programs, at the time of the March 1996 version as released by the vendor supplied by Matrix with its Millennium graphics card, was a little more

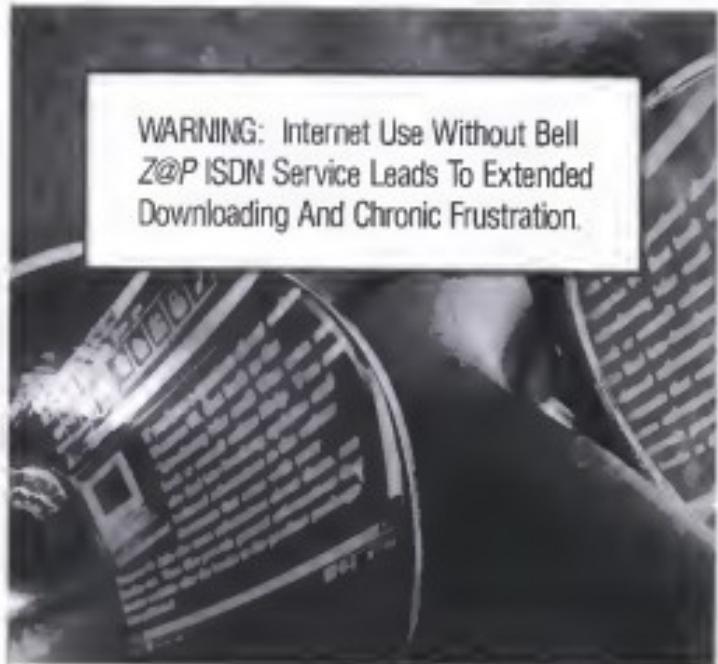
time-consuming to set up, and was the lowest of the loads. (Paradoxically, the ATI 3D Express, which had the best MPEG performance overall, also had its driver on the slowest code.)

Interestingly, SoftRAID provided the least playback performance under Windows 95. In terms of sheer speed and image quality, it does nothing for the driver's downloadables (www.computer.com) CD, a 90-MHz Pentium we measured over 20 frames per second (fps) at 640x480, based on a 128x160 8bitPCI original.

Running a Matrix Millennium under Windows 95, the 16MHz drivers averaged about half this (20 fps in non-disk option). The Xing driver was not as fast as ActiveMovie but provided the best full-screen multi display display with Win95, although its full-screen display proved to be more grainy than that of the SoftRAID player under Windows 95. The Millennium plays its "Maximum motion" mode the same as ActiveMovie, 20 fps under Win95.

A problem at Xing explained is that Win95 drivers don't fully support the Matrix Millennium card (or another popular card and fully supported by the Xing software, but ATI's media driver of 48-bit playback performance products ship with).

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er at least in its present form, unless the fact that it is a Netscape plug-in makes it a must-have. Internet PC version support audio as well, the Mac version currently does not, but that's available at www.mpeg.com.

Second, versions of Netscape Navigator directly support other multimedia playback functions, too. The Windows version of Netscape Navigator 3.0 can play AVI movies, and versions of Netscape Navigator since 3.0b4 was released in mid-May are able to play QuickTime movies directly inside the browser, provided that QuickTime is installed on the PC or Mac system.



Just how much can MPEG compete in AVI or QuickTime file? In its test of iSquash, a 32Mbps version of a QuickTime movie that plays for 60 seconds resulted in a 320Mbps MPEG that was just 6.1 MB (0.02mbps). It's a standard North American MPEG format. The audio track, which we expected from iSquash separately added another encoder to MP3 format but a more 200kbs MP3 audio format, a good alternative MPEG audio encoder is CoolEdit, with an MPEG audio soft-on. MPEG audio files are about one-fifth the size of their MP3 counterparts, though iSquash's test was a very variable MPEG media player for Windows PCs. A summary of Microsoft's MPEG offerings can be found at the end of this article.

Like Navigator, Microsoft Internet Explorer directly supports movie playback of Web pages with integral AVI (Windows and Mac) and QuickTime (currently Mac only, and now rendering) movies. Recent Internet Explorer releases also support Shockwave plug-ins, further expanding the possibilities.

Although Apple has now surprisingly adopted better compatibility and functionality in

its QuickTime version, QuickTime on Macintosh is no slouch. However, Apple has been slow to provide 32-bit versions of key elements, such as the QuickTime VR player, which, at this writing, is still 16-bit Windows code. In what may be a related observation, we noticed no noticeable performance improvement after upgrading the QuickTime 3.0 version of QuickTime 2.0 for Macintosh to the 3.0b4 version 3.1. (In case you're wondering, 3.0b4 was released in mid-May and May is still able to play QuickTime movies directly inside the browser, provided that QuickTime is installed on the PC or Mac system.)

The Mac may be a good choice as an authoring platform. It is probably not the best choice for playing back digital video. However, 3DV Doctor's unperfected QuickTime encoder inexplicably in full-screen mode runs in Macintosh OS.

However, we found the Apple Movie Player software on the Macintosh to be quite a bit better than its Windows counterpart. The Mac Movie Player system allows the screen to be stretched, and the image can be resized as size as expanded to fill the whole screen. As mentioned above, these sizes and playback quality were somewhat lower than that of ART format files under Windows. We also tested several other QuickTime players on the Mac, including Peter's Player, Peppermint, BMG MATT Player, and MoviePat. By far the best performance was provided by a combination built with EAS, which gave smooth full-motion playback of full screen movies, even on our 486-based Mac 510. The only catch is that EAS costs \$1,495. Electric Image Animation System, a Mac-only program that costs US\$1,495. Yikes!

Spudule is a freeware Macintosh-based

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MPEG smoothplayer. Although most versions of Sparkle are able to handle audio in a limited way, the MPEG video can have an associated ASF or WMA audio file. Sparkle can neither encode nor play back Uncompressed MPEG audio. The author says this capability is coming in version 1.0 and promises a program called "MPEGM" in the current release to extract MPEG audio and video streams as separate files. Sparkle produced MP3000 tracks with very clear images. However, when encoded by Sparkle, the MP3000 can't move the soundtrack of the original QuickTime file, and no other MPEG player we tested could switch between the AAC audio and the Sparkle-encoded video. It's worth noting that Sparkle can also convert MPEC files to Apple's QuickTime format. AACular, unfortunately, is not included with Sparkle because MP3000—albeit clever.

As a Windows-based MPEG player, Sparkle is a good choice, although its file playback at 6Mbps on our 400MHz was disappointing compared to the Windows-based players we tested. It is, however, a useful tool-dependent choice as a video-only MPEG encoder for content-creation. Mac users, and we applaud the author for his ingenuity for progressively refining it over time. You can get Sparkle from www.mpegm.com for a price like \$29.95, or via [mpegm.com](http://www.mpegm.com) for \$49.95. For information:

Sparkle—or lack thereof

All software-based MPEG encoders take a long time to achieve the compression ratios that characterize MPEG 96 to 90 times smaller than uncompresssed video. Typically such encoders allow you to perform batch compression to lessen the inconvenience. The authors' new MPEC compression—sometimes called "streaming" encoding—now need use this feature. CD-i, expanded hardware encoder 024801 (91-408-6300) is a well-known manufacturer of MPEG encoders; there are many others. Consider one of the many digital video acquisition cards in DV video levels costs. Video Studios USA (www.purple.com/~vstudios), Multicam World (www.multicam.com), etc., or look on the Internet for audio 8800.

There are numerous commercial video coders/capturers options for the PC, ranging from a few hundred dollars to many thousands. One solution, let's say, is at <http://www.cheeseysoft.com>, on the product page for \$1,000-\$1,500 for real-time encoders or cameras. Consequently, look at the costs for cameras and date recording.

A recent release from MPEG, the PPS 80 may be worth a look. The package, which costs about \$400 (\$394.95) includes a motion JPEG capture board for an ISA card, and comes with a ring decoder and audio processor. The PPS 80 generates "VHS-quality" results, and uses your system's existing sound card to handle audio recording and playback.

According to their Web [Commercial Systems of Pleasanton, CA](http://www.commercialsystems.com), their newest card, the MPEG Master, is the next step up. A PCI card, with built-in sound support, will retail for \$1,000 when it ships this summer. This card allows computers with last allegedly copyrighted "MPEG 2.0" support board, which uses a "set of three" rated at less than 100MHz. Both of these options, and many others in the \$1,000-\$10,000 price range, are so-called "Motion-JPEG" capture cards. Motion-JPEG allows the captured video to be stored on a memory-freeze basis. It's worth investigating the PPS 80, VHS and audio AVI capture options that either's repre-

sentatives can offer, how audio synchronization problems. These problems do not occur with single-card AVI capture systems.

The only freely available MPEG encoder for PCs we were able to find was COMPMPEG (available [from an FTP site at Florida CERN/UMPCG](http://www.ftp.org) (also known as CPMPEG2)). A sequence of these files later MPEGM—uses audio. We were unable to connect to the FTP site in Florida to obtain the COMPMPEG file, but managed to obtain a copy from a mirror site by doing a search for its name. COMPMPEG is a DOS program that

accepts its command-line options of a series of access parameters like arguments and complete batch scripts. Frankly it looked too complicated for our taste. We were looking for a Windows or Macintosh recorder that supported audio.

A search of the Internet's MPEG-HAD 4.0+ group (newsgroup rec.audio.mpeg-had) revealed that a possible choice is a product called "King 32bit Decoder" ("The King Encoder," the PE Model at the King Web site said). "Supports sound and identity controls. All done in key ac-

"click, click, done.") The company's Web site and the download was available for download from CompuServe. We logged onto CompuServe, typed GO XJING and went ready to gladly pay US\$89.95 for the Windows-based encoder. When it occurred to us to have a look at what other users might be saying about the product. Apparently the manufacturer was pleased. Numerous messages—most of them—expressed anguish—over the poor quality of the website. One European fellow characterized it as "the laziest software I have ever run!"

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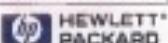
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and I have a feeling he was not using the word as the Michael Jackson song. Numerous others said that they had never been able to get it to work right, either that problems were the cause. Based on comments we're GigaPan and Unicore, it seemed that Xing techniques had no idea whether it could be made to work under Win95.

What it all came to say is that technical support was not as good as the GigaPan forums used to promise. "word-on-surface" was the seemingly unavoidable negativity caused us to reconsider the purchase. In the apparent

absence of an audio-and-video MPEG Encoder we could either go back to basic or the possibility of using an MPEG server. Since the Alta Vista search engine on the Web is based overall.

In most cases the basic idea is the same: the consumer needs a video tape to digital tape (encoding a sequence of MPEG-2 data) to a video server and they encode the video in MPEG-1 format and send it all back. Unfortunately the cost per minute of video would not be quite high. About \$4.100 (strip test) and a \$100 fee for encoding less than 10 minutes of video and \$30 per minute after that, we were ready to start the long process again.

Unfortunately, our initial experiments with Xing's 2D MPEG Encoder were consistent with what we had heard from others: Although the software behaved without problems, and appeared to successfully complete the encoding process, we always experienced a fatal error ("Unknown Processor Error in module GMALC") just as the progress indicator reached 100 percent done, often, of course, and again. Consequently, we never managed to save a file. And so we tried it on both Windows 3.11 and Windows 95.

We found an update on GigaPan that resolved this problem. They write as per: "This will give us peace that it's a great idea to check technical support forums and/or contact newsgroup discussions before purchasing any product."

They noted that the Xing-encoded movies were somewhat blurrier than those created by other encoders. Presumably, this "soft-blurring" made the Xing movies look better at full screen sizes. Review the Xing player to one of the more popular MPEG players for Windows we found the Xing-encoded files to be the

most compatible with our various players too.

Cloud NewMedia cost us a commercial MPEG Encoder that handles audio and video—and works in both 16- and 32-bit Windows environments. GigaPan MPEG Converter is also unique in that it converts both to and from MPG, providing an easy way to move MPG files between any of the numerous video editing programs on the market. The Usual MPG Converter file for USAGB, but we found it to be considerably less as an executable file. GigaPan's MPG file distribution throughout the world | MPEG Converter encoded directly to our box and supports Windows 3.1 and 95. Ironically, though, the files created by GigaPan's product wouldn't play back at all with Microsoft's Accessories if they included a 4-bit audio track, said caused an incompatibility problem with the Xing player as well. Saving the audio in 8-bit or 16-bit format solved the problem.

A third commercial MPEG encoder for Windows we found is from VideoShop (VideoShop.com, VSPCO). Its MPEG Maker version is available for download, version 1.0.2. However, to access the file you'll require a password and the file password will cost you US\$89. In our tests the VSPCO encoder is about as good as the Xing encoder but costs quite a bit more. For example, it wouldn't accept files with 8-bit audio (a relatively common format in most hand-held cameras). VSPCO has several other MPEG-related products as well, including what it calls the world's first and only MPG-1 editor. A demo version is downloadable from the company's Web site. In limited testing, it appeared to be somewhat "bloody" reporting errors when attempting to load MPG-1 files that were encoded with—and playable by—other encoders.)

Contact Vitec (Tel 841-311-0144) as the company's Canadian distributor, Broadcast Multimedia Inc. (Tel 404-490-0556 or Web site www.broadcastmultimedia.com)

Brennan speculates instead that says the status advantage MPEG-Maker has over its competition is that MPEG-Maker supports continuously variable bit rates. Brennen also distributes the Cygnus line of highly sophisticated high-level MPEG-1 and MPG-2 encoders, for those who don't mind paying the big bucks for mid-line encoding.

The only other MPEG encoding software PCs we've tried is not yet available, but has been announced at www.sipos.com. The company has not stated the price of its encode product which is expected to be out by the time you read this. Based on the company's MPEG player plug-in for Netscape, we don't hold out too much hope for a trouble-free product, though.

One of the more popular systems at the "premier" end of the price scale is the US\$30,000-plus Realistic Products from Agfa Graphics, which uses a hybrid MPG/MPEG format that is designed to overcome the fact that "true" MPEG isn't really an ideal file type, due to the fact that it stores differences between frames and not whole images. Hence, a given "frame" of MPG/MPEG files is necessarily a whole image, at all. And MPG/Products' Web browser (read: Web browser) includes a clever software bundle including Gelfont Design's and Adobe Photoshop 4.0, and comes with a scan-converter for output to MPG, according to a review in Multisystem News. It runs an enormous challenge to set up and get working. Realistic Products' capture video is also slow, but it is a real-time MPEG encoder. It captures an MPG format, and converses to MPG on a separate card that takes three to four minutes to encode a one-camera scene cap. That's in a lot better than some of the software-only encoders. The Xing encoder, for example, required 10 minutes to encode one minute of video on an i486. The Cloud encoder finished encoding in just under 40 minutes, while the Vitec MPEG-Maker was the fastest, taking only 27 minutes to encode the video.

Compatibility problems with the MPEG-1 "standard" appear to be apart. Most PCs can encode a file with any of these products, and play it back with any other product, we think that's worth to be clear by now: MPEG-1 has been around for years, you'd think they'd have worked out the incompatibilities by now. The best encoding results in terms of overall compatibility was from the Xing Encoder. The Cloud MPEG Converter suffered the best data loss, despite some audio compatibility problems if saved as Microsoft can solve the problems with file-compatibility files. The massive convergence of MPEG Converter make it a powerful tool. And, in terms of speed, the Vitec, Brennen tools, the why On the Mac-specific product MPEG converter doesn't seem to have the same level of media support items as windows.

Here's a round-up of freely downloadable MPEG encoders available for Systech, Laser, 908, and other DOS-based systems. Most are based on source code developed and freely distributed by Bentley Computer. We didn't test them, but based on the documentation they appear to share the common-line incompatibilities and quirks of CDEV1000.

Macintosh tools

Aside from the aforementioned CorelDRAW

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Have you got what it takes?

Taking an inventory of your skills and attributes



Most people start a business without ever considering all factors through personal assessment. Without this self-appraisal, your potential success in business could be limited. This column is intended to take you in review on your strong points, weaknesses, and abilities, and identify what areas that most improvement. It will also help you identify skills and attributes you may not have recognized previously that will enable you to clarify your personal and business goals and put you in competitive edge.

+ **Ancestry/History:** Summarize your life history. Review and detail all aspects of your past, including achievements and less than ideal situations. Identify special projects, lesson activities, including sports and hobbies and travel experiences like the work you have done, including full-time, part-time, and summer jobs. Track each job for all the work that you enjoyed or tasks that you preferred (e.g., sales clerking, supervising, writing) and with the whom during their period and with back.

* **Skills:** List all your skills. These are your developed or acquired abilities such as: accounting, administration, bartending, advertising, selling, etc. Once you have identified your skills with them by frequency of use, this will give you a good indication of how important they are to your activities. Which skills do you believe will assist you in attaining your business goals?

* **Personality attributes:** List all your personality attributes. Attributes are inherent characteristics such as having an analytical approach, a thoughtful mind, being competitive or sensitive, etc. The common characteristics of entrepreneurs discussed in best authors' books are good examples of personality attributes.

* **Achievements:** List your most important job-related accomplishments. Examples may include: negotiating a major contract for your employer, coordinating a major conference or increasing sales quota by 20% just one year from your first job. List accomplishments (e.g., being elected as president of a club) or negotiating a funding grant. Rank your accomplishments in terms of their importance to the least important. Then identify and write down all the data and talents demonstrated, and activities that show that were needed to attain each accomplishment.

* **Personal and occupational interests:** Identify your present interests (e.g., business, science, politics, health, environment, sport). List those interests (priorities) and list those that provide you with the greatest amount of personal enjoyment and satisfaction. List the recreational activities that you enjoy.

* **Community:** List community or social activities that you have participated in (e.g. church, hospital, clubs, volunteer organizations).

* **Business:** List all your current and past hobbies (e.g., reading, publishing, photography, gardening, cooking).

* **Things you like and dislike:** Think of the activities or characteristics that you like or dislike the most work or personal. List the events that cause you the greatest amount of pleasure, satisfaction and happiness and the events that cause you the greatest amount of anxiety, frustration, or unhappiness.

* **Strengths and weaknesses:** List your personal, strengths and weaknesses. List them in order of intensity. Consider your strengths, talents, or experiences for your weaknesses. Ask someone who knows you well to list a friend, your spouse to list what they perceive to be your strengths and weaknesses and to rank them. Do others see you as you see yourself?

* **The present:** Think about your present

situation under various headings: social, career, family, financial, physical, emotional, financial. Can the money and work power in each category affect you? Will self-exploration have an effect on each of these categories? Ask your spouse the same questions. Is this or her assessment similar to yours?

* **The future:** List the personal goals that you wish to attain in one, three, five, and 10 years. Will your business objectives assist you in achieving these, and if so, to what extent?

In summary, know your strengths and capitalize on them. Identify your weaknesses and reflect upon how you can enhance their effect on your business activities. Be confident of your abilities because it influences when you are selling a service or product; you are selling yourself. If others believe in you and trust you, they will want to do business with you.

Douglas Gray, LL.B. is a Vancouver-based speaker, writer, columnist and author of 22 business books plus a motivation/inspiration software program. His books include *How to Buy The Canadian Home-Based Business Guide* and *The Complete Canadian Small Business Guide* (both by Euro-Can Books), *Start and Run a Profitable Consulting Business and Marketing Your Product* (both by Self-Counsel Press).

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Going to do the movies

Continued from page 25

we did not test any MP3 editors. As it was, the Usenet MPEG Committee can convert those MPEG's in the movie version 1.03 format and Spindie handles MPEG to QuickTime conversion, both of which are estimated to retailing well. Most users work with MP3 and QuickTime and convert to MPEG after the editing work is done. Consequently, we found no MP3 and QuickTime editors and storage tools in our test.

Premiere, as we noted in our recent review of video-editing programs, is the leading package at this category in both the Mac and Windows platforms. Version 4.2 for Windows brings a number of important improvements, not the least of which is much better compatibility with Windows 95 and NT. Despite our endorsement of Premiere, formerly from Avid, now carried by Silicon Graphics for low-end Macs, Premiere continues to be the best all-around choice for noncommercial digital movie editing. We find that the features supported by the Windows version to be generally more useful than those of the Mac version. The Mac version's inability to load or save AVI or TMP files is an unfortunate omission, considering the Windows version handles both with aplomb. No sound issues, the Mac version also lacks Photoshop's AI, found on the Premiere CD for Windows. Despite the limited features available, it is a useful tool for graphics work.

Another Adobe program of interest to the digital movie maker is Adobe After Effects. AE is, according to company spokesman Pauline Price, intended for the person who's familiar with Photoshop and has determined that it's possible to use it as part of the movie-making process. The usual creation of new effects will run \$13995 a \$1,995 "producer's bundle" includes five additional packages of plug-ins, including motion control and other advanced special effects.

And just what is After Effects? Basically, it is a collection of composite filters and tools similar to those found in Photoshop. Possibly the most useful function is one of the "blue-screen" variety. After Effects can automatically composite images in, to substitute background images based on chroma or luma values. When is, not the sort of program that you can master without a manual, but it's not going to be far much of a stretch for Photoshop or Premiere users to master After a few hours or two "up and away."

Motives—whose R&D Power Tools is another title widely known by Photoshop fans—makes fluid effects, a set of plug-ins designed especially for After Effects. We did not test fluid effects, which is available for both Mac and PC.

Search the back issues on our Web site (go to www.pcworld.com) for reviews of VideoShop, Premiere, Recut, Transmition, Morph, Comic Studio, Legionator, 3D programs, and other tools of interest to digital filmmakers. □

Getting it from here: An integrated software review section featuring MP3 editors, including:
 200 MP3 editors that MP3.com rates (the site lists over 300) as the 40 best commercial programs:
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 Macromedia SoundEdit 9, \$199.95 (<http://www.macromedia.com>)
 Winamp (MP3 player), \$29.95 (<http://www.winamp.com>)
 WinAmp, \$29.95 (<http://www.winamp.com>)
 AT Internet's WinAmp 3.0 (Windows platform), \$29.95 (<http://www.winamp.com>)

Price Waterhouse predicts year ahead in electronic media

BY DAVID KELLY U.S.A. (PNT) — New design technologies that will replace CD-ROM technology for audio in consumers' recordings on the Internet and videodiscs are coming, according to a study by the firm of Price Waterhouse Coopers. The study, "Top 10," predicts growth in electronic media and communications firms.

In the Top 10, one of the major changes seen is a result of convergence in computers and CD-ROM drives. Price Waterhouse

officials said, in the form of digital versatile disk (DVD) multimedia storage technology.

DVD technology can store up to 10-times more than the standard 650 MB on a typical CD-ROM media, resulting from its higher than CD-ROM optical and 16x speed, or DVD playback of up to 1000x the normal speed of the prior 16x speed of the CD-ROM is transferred.

The finding of two years ago seems isolate-

dation on the Internet's World Wide Web still shows in a clear as anyone official put it, "no real reading of the 'total environment.' " Also on the Top 10 list five Web companies will sell and online service providers will team with publishers to sell papers via newspapers and annual cyber subscriptions to best sellers.

The Top 10, Inc. is a part of the D&C Technology Report, which is put out by Price Waterhouse Co.

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When bigger is better



**TCP
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the 17-inch
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market**

BY CHRIS FISHER
AND STEVE KALINICK

Conducting a poll of 140 user IT professionals we discovered the personal computer is the "Incomer" #1. If you are in the market for a new system, you will notice that the standard off-the-shelf route to be an inexpensive 14- or 15-inch model. Unlike most computers that make up a complete system a 17-inch monitor is a good long-term investment, since it will continue the rest of your system.

It's nice to say that after you have worked on a 17-inch for too long, however, you will never want to go back to a smaller model, and should you have to use a computer that accommodates suddenly with one of those smaller monitors, you will feel at best than something When it comes to monitors, bigger is better.

Last year at this time we looked at 70 monitors varying in size from 14 to 17 inches. This year we took in the newest monitors, focusing on 17-inch models. We asked the leading monitor vendors to ship over 50 samples of their lines. We listened then to the focus of the debate would be on the home

market, but that we were also willing to look at slightly more expensive monitors for the benefit of the really discerning consumers.

A monitor is a monitor is a monitor—nail

These are surprising findings, especially since the monitor market is still in its infancy.

—the key component of enjoyment. There are many screens in the world, we're 17-inch graphics alone, there are only 100 different models. 27 of which we were fortunate enough to be able to look at in this issue.

So, with only some people reading the key ingredient of enjoyment to think that a monitor is a monitor is a monitor—however, this is not the case. Each manufacturer will have

Continued on page 108

Products tested

Amstrad Amico 700	and Dynalogic 1400
AT&T Myriad 17x	NEC 1710, 1720, 1730
Apple iMac G3	NEC Monitor 17V1, 17G1, 17B1
Compaq CRT-1700	Philips 14P1, and 14P2
Dragon 17120 and 17170	Gateway 1700
German Studenten 70	Intermac 17
Hypnos Detection 17	NEC 1700
IBM 1700	NEC 17V1
Japanet E 5V7000	Samsung SyncMaster 1700L and 1700
Macintosh IIx and IIcx	TCL 1700

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28 16 SPKRA speakers	\$260
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ACCESS	\$199

DX586-133.....	\$349/m	\$999.
Pentium 75.....	\$39/m	\$1,145
Pentium 100.....	\$42/m	\$1,215
Pentium 120.....	\$47/m	\$1,280

Professional Systems

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Pentium 133.....	\$83/m	\$2,330
Pentium 166.....	\$89/m	\$2,500
Pentium pro 200.....	\$100/m	\$3,010

Net work start's Kit.....	\$99
2 NE2000 cards, 2 BNC, 2 terminators	
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Im Park, 1.08 pg. 2000, 1.5" PFD
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SONY 17" monitor, MATROX

24-pin video card, 16 bit, \$676
ELASTIC, 1.5" PFD, 98 mouse
BONEYWELL, 1.08 pg. CD tower 1000
1.6 gig HDX 6X CD-ROM
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486, 4000, new	\$500
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Bigger is better

Continued from page 28

and a variety of different sizes and each line may be divided into several classes based on their distinct size. Many tubes, on the market do, in fact, measure 6mm. However, they are usually not distinguishable to the human eye since "6mm" is defined as one or several bunches of pixels in the monitor's CRT.

Tubes are divided into several groups, dependent on quality of the product. A CRT with a classification rating A would be most likely project that it will have immediately noticeable grain from the factory. Tubes classified as B, C, and D would be associated with higher defect rates. The particular pool of CRTs that a monitor manufacturer chooses for a particular model, coupled with other items such as memory and masking, helps explain why there can be a price difference of more than \$1,000 or 10 inch monitors that have similar specifications.

Healthcare

As North Americans we may like to think that we sit at the leading edge when it comes to environmental health and safety issues. The health of the nation is however, how an important topic lag behind. An example of this can be found in the levelled valuation that we assign toxic wastes.

In many parts of Europe, workers must meet the strict Swedish standard YCO-HR3 in order to be safe. According to John Pagan, a manufacturer's representative, it would top medical students, putting a monitor to memory with this standard implies assuming the responsibility of the doctor to treat as much damage. Other standards can be met via spacing, the reason for the case with a desk-top. The extra width and material required to meet YCO-HR3 can increase the cost of monitors by as much as 30 percent. The increased use of flat monitors, coupled with a lack of legislation, as well as present government actions will see few monitors on the market that adhere to this strict standard.

Putting the audio into visual

Many monitor makers have turned to adding value to their products by adding sound capabilities to them. Known as DVI (Digital Interface), a set of digital quality speakers nicely coincides with the change. Most of MFCs now offerings even come with a built-in audio speaker. There is some debate. But concern around the fact that sound quality from a set of built-in speakers is not as good as a set of good quality stand-alone speakers. Connecting building speakers into a monitor's sound processor that some sound quality will be compromised.

The major advantage of buying an audio-only monitor is space. Many of us live with two large speakers often placed at both ends of our desk with wires trailing out of them. The whole setup needs to get in the way. The new CRTs coming in though, and the speakers are located rear. Moving these into the monitor could give you back as much as a square foot of desk space.

Acer AcerView 3000

The diagonal viewing measure on the AcerView series is at 104.6 inches. It has a 12 mm CRT pitch, and a resolution resolution of 1280x800 at 43 Hz. The screen controls are not as intuitive as some that we have seen here, are nevertheless, more than functional once you get used to them. The picture quality was quite reasonable, even at its maximum resolution especially given the fact that the monitor is available on the street for less than \$1000. Acer monitors are distributed by Compco.

AEK Microbreak 17"

AEK look at the AEK monitor back in March of this year. This monitor stands alone in the lineage with its ability to be flipped over and change to a "page" mode that removes the video resolutions. For example if you are viewing at 1024x768, the monitor will offer a 768x1024 mode. This is ideal for

Continued on page 32

Glossary of monitor terms and acronyms

Convergence: The ability of an electron beam to hit the correct phosphor dot.

CRT: Cathode Ray Tube. A glass vacuum tube used to illuminate and measure.

Dot pitch: The vertical distance between the centers of adjacent pixels. Dot pitch is also a measure of contrast in the choice of a pixel location. The smaller the dot pitch, the greater the image.

Interlaced and non-interlaced: These terms describe the way the picture on the screen is rendered. Non-interlaced is preferable to interlaced. A monitor is best when the horizontal instead needs to flicker. This has been looked at in previous and next sections. Non-interlaced, the difference between the two is as follows:

On a non-interlaced monitor, the image is rendered in the same way you see text on a printed page, line by line. With non-interlaced, the pixels are red and the screen rate for the entire

call enough to cover, or refresh, the whole image. On an interlaced monitor, the refresh rate is half the vertical scan rate.

Pixelclock: The term refers to the refresh frequency of the image on a CRT. An monitor will receive a certain amount of pixelclock. This value is caused by the control voltage of the CRT.

Refresh rate: The rate, measured in hertz, to do the number of times per second the monitor is able to rewrite (redraw) the same image on the screen. Most people connect an 800x600 at 60 Hz higher than 60 Hz. Generally speaking, the higher the refresh rate, the better. It is recommended that the monitor you choose be able to refresh the picture at resolutions above 60 Hz, preferably 70-80 or more.

Shadow mask and aperture grille: The shadow mask CRT uses tiny calcined dots as mask dots for image. This is used in CRT monitors. The aperture CRT—or aperture grille—monitors have coated metal strips to control the electron beam straight along to cross the image. The different technologies give monitors a radically different look.

advice: take a 1Mbps connection and let the only choices that exceed one of these values in the box. Those providers have been using power savings in my modulus. They are a few dollars more than the average costs that but an additional expense.

Series T2 ISDN and T2 1Mbps

Series' modems are going through a major change right now really. Series' modems are standard throughout the rest of the world under the name ISDN, and the Asian brand uses no confusion in policy through this change in order to standardise. A standard also may available T2 ISDN for those of you business all around Japan or "shain" in Japanese.

Series' modems demand a premium price over many of the others in the survey because there are some good reasons for this. To start with both Series' modems are limited to addressed to the same bundle T2ISDN line selection provided. Both modems can achieve 10Mbps/2Mbps resolutions with a 64 Kbps serial rate. The T2 1Mbps uses an adaptive gain ratio and has a dot pitch of 12mm. The 1M model uses an even smaller pitch of 10mm and has a 30mm dot pitch. The modems come with one of the best and most complete set of controls we have seen, and offer break-off images even at extreme resolutions. If you are looking for a view that money can buy, you will want to take a close look at these two modems.

MEX Multisync XW174

and Multisync M790

The MEX is by far the most interesting looking monitor we have come across. The entire casing has been contoured to closely follow the CRT and the end product is a definite space-age look to it. The M790 is a full multi-synch monitor, ideal for the home setting and perfect for anyone trying to keep up-to-date. The monitor comes with not only a built-in set of speakers, but also a built-in microphone. The general specifications of the M790 are quite specific to a desktop-purpose monitor. It has a 23 inches viewing area, a resolution range of 800x600 pixels, and can display images at 1280x1024 at 45 Hz with refresh rates. The screen controls of the M790 also control sound from built-in speakers, so spending a lot of money purchasing the M790, focusing on the speakers will be costing, and so they should as they have an exceptional profile.

The MEX Multisync XW174 is not quite as feature rich as the M790, as it has a 23 inch viewing measurement, but a smaller 20 mm dot pitch, and can achieve 1280x1024 at 40 Hz. The screen controls on the XW174 are superb and the image was impressive, but unfortunately, the contrast control is not well located down with only a few

Mobile 447W and 447WV

It would be safe for me to speak about the 447, because without last being on that I have had one on my desk at The Computer Pages Test Lab for the last eight months.

The 447 is an unshielded monitor featuring a pair of quality speakers concealed and underneath under the base board of the chassis. It has a 14.1 inches diagonal measurement on the viewable portion of the CRT, a 28 mm dot pitch and can display 1024x768 at 80 Hz.

The 447W also has a 14.1 inches viewing measurement but a smaller 20 mm dot pitch, and a higher resolution of 1280x1024 at 70 Hz. Like the MEX discussed earlier, the 447W

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The blues on the banks

not only has built-in speakers but also comes equipped with a built-in microphone. It features the standard telephone and answering jack. The display is bright and clear with a 10 cm visible distance. The 16 MB memory can store the files of the previously discussed MTC MC-3000 allow saving 10 sound functions. However, their expansion leaves a lot to be desired.

[Samsung UpdMaster TPA-01](#)
[Samsung UpdMaster TPA-02](#)

Software products a number of computer programs, some of which are not distributed in the Canadian market. Usually they have some disk layouts that can be found but are not officially distributed, here. The problem is, however, is different because it involves a lot of money in pursuing the Canadian market.

The main controls are the best in the survey. Unlike many surveys we placed with the controls on the Specimen no quickly picked up. The buttons and their associated actions have been well designed.

The ICPAC is the experts council of the project members from Germany. The meeting structure is at IUP with a 20 member panel and a maximum duration of 10 days/1000 km. This committee will take input from either a R&D committee or regular YAC-activities and will have a wider audience set of project members from the 2000+ members. The ICPAC also complies with ICCC 1999 membership, whereas the IUP does not.

The 1700 has a 15.74m² diagonal glazing measurement. For a larger 20 m² one pick up another 1000 litre 1700. A maximum capacity of 12000 kWh can be achieved. Despite the fact that this is the more economical of the solutions, that having said it is the reverse of a 100% quality item. Realistically up to 1000kg/m² roof weight and class four at 1700 kWh the system is a cost price optimised for general purpose. However, this remains a general point.

TTA PICTURE
The TTA offers a full black diagonal $\pm .25$ mm over pitch and can display up to

Review: Research and Tools I

The Osborne Computer has one of the longest disk stacks of all the machines in this survey. The 5 1/4" disk and patch storage that most desktop publishers and graphic artists will not even consider this machine! However, it does manage a resolution of 1024x768 pixels on its screen and the price is right. As an entry level BBS system, if you need a large general purpose computer, and you feel like saving a few bytes on storage, the Tympani may be a consideration.

The Beta II has a 10 inch diagonal view port, a 3D bar chart graphic and an display of predictions up to July 2000. The module also accepts input from a EMC connector and has an event counter. Like the "Fengyun-2" model, the Beta II predicted atmospheric pressure, but could measure the heavy rain when it recorded 90% cloud.

Pneumatic Pneolytes 312 and Pneolytes/Pne 312

At the focusing angles, the Penetizer Pro is the higher-gain measure of the pair. It has provision for 16:16 input from a 16-track multichannel digital recorder, a 20 dB gain switch, and can capture images at 1000x1000 or 4K. The Penetizer has two higher resolutions with noise, giving good color and clarity and focusing like the "Pro" all mentioned.

The *Panasonic FZ100* has a 3.0-inch electronic digital zoom; a respectable 23 mm lens group; and a maximum resolution of 1024x768 at 60 Hz. The mid-line camera's optical system is similar to the FZ10 camera, but lacks PGC zooming. It operates well up to 1000 ft., giving a sharp image throughout, even at its highest resolution. At its lowest setting, its clarity and bright images leave a

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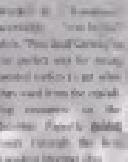
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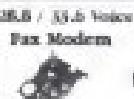
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where distortion and "smearing" problems show up than lines of dark pixels or off-colored corners.

In most cases such as for accelerated video playback and 3D acceleration capabilities, especially if you are interested in games or raytracing, the best choice is a graphics card with at least 1 MB of video RAM (or memory RAM, as used on many Matrox cards) in a good installation that you can afford and will be able to support "true color" graphics at decent resolutions. If your system has local bus (e.g., VESA) definitely choose a local bus video card. If you plan to use Windows 95, be sure to ask if the graphics card comes with support for Microsoft's DirectDraw. Software MPEG disk-access digital video playback is good, as is hardware MPEG playback option if even better.

Many computer systems are delivered with a monitor and graphics card—often very bad ones! Fortunately, you can usually always pay a little less for a monitor to upgrade to better components. This is definitely recommended. Most aftermarkets offer the lowest possible price in their ads. Start by examining a complete奔腾系统 from the cheapest possible components, then choose components or start to save based purely on price. However, if you research your purchase carefully you can shop around for the best price on certain components you know you want. For example, in my system, I knew I wanted the best possible monitor for the money. So for my tasks, a Sharp Trinitron looked the best. I found a very VGA monitor was an intermediate stage with a full resolution of 1280x960 a hundred dollars less than full size!

Similarly, I knew I wanted a good video card, without blowing the budget. A little research narrowed my needs to three models: ATI Mach3D GLX for a model with about 8MB or about double the price for a card

with openly VESA/MATROX resolution (1280x960 and up), or Matrox Millennium (1280x960 and up). These were below cascade the \$700 Number Nine Imagine video card or a number of other fast PC graphics showing performance as old as the video card in the inexpensive budget奔腾系统 (Intel Pentium P100). But in order to test the resolution, three rules you'll have to make some tough choices. My advice: don't sacrifice the display. A good graphics card will make your whole computer seem faster, and a great monitor is an investment you won't regret.

The three best monitors for the money I came across on my journey were the colors:

- Sony KV15-1000
- Sharp 15X1 15-inch is new model with flat screen and digital controls—much better than most of the Sharp units I've seen,
- and Samsung 15-inch. Between model sets, signal controls.

The worst monitor I saw—by far—was from Compaq. The 15-inch model was the absolute worst monitor I've ever seen. Its VGA price may seem like a bargain, but it's a sucker deal.

The monitors on ATI's Advantage 3D series of computers were fairly crap, although I noted some improvements in the brightness in parts of the screen, in general, I disliked the following telltale signs of a bad monitor:

- lack of overall brightness, picture clarity and vibrant colors
- color fringing in the corners of the display
- uneven brightness that decreased with

a solid background color, or better yet, a dot-matrix-off any pattern which can also reveal expansion mode patterns.

- distorted or uneven sides on the display
- and flicker (this is also a factor of the video card)

The ads typically only mention the first two items, and even then, in less detail than you might want. And that's tested a 15-inch PC 16 monitor, for example, equipped a processor with a clocking rate of less than 13 megahertz with a magnified display and a

"16-bit" dot pitch.

Generally, monitors with a smaller dot pitch will have a clearer display than the larger ones.

The last monitor I chose for example had a dot pitch of .25 mm (actually the Thinner requirement of the monitor made that dot pitch dot pitch is called an aperture grille).

Other desirable attributes include a flat screen display, anti-glare coating, and convenient digital controls. Bevelled screens displays are not 800 pixels flat, but they distort the image less than monitors with a rounded picture tube. Multi-synching allows the ability for the monitor to support multiple resolutions. All of the video cards on the market will be able to support a number of screen resolutions.

On a 15-inch monitor, we find that 800x600 is an optimum size to work with. We can switch the display settings to 1024x768 for jobs where higher resolution is more valuable than millions of colors (there is always a tradeoff between resolution and the number

of simultaneous colors), or, when the entire page shifts, we can switch to 1600x1200 with the full palette of 16.8 million colors.

At \$600-\$800, the ATI Mach 64 we previously tested on gave us thousands of colors, MPEG video playback, a component set of software utilities for refining colors, rates and resolutions, and support for Microsoft's new DirectDraw standard. Several models of the Mach 64 are available. My budgetary constraints led me to choose the less expensive version with 1 MB of VRAM. The Matrox Millennium was right behind the ATI, but the ATI, like a Canadian company, with better performance in many areas than costing more than twice as much in the ATI. It was my original choice due to its superior MPEG performance under Windows 95 and its multi-resolution modes. The 3D graphics acceleration offered compelling but limited 3D acceleration is not functional under Windows 95. Even without hardware 3D acceleration though I find that 3D and 2D graphics are amazingly smooth on today's high performance PCI graphics cards and PCs. Given my dual goals, the Matrox monitor is a good choice, so you wouldn't go far wrong with any of them.

Curve theory

The key to picking the right monitor is no choice of everything as being on a sort of bell curve. At one end, we have the blinding, bleeding edge, where everything costs too much because it is blind spawning new and compatibility problems on consumers as the process changes the base in all these version 1.0 components. Similarly, we have enough trouble with the middle-of-the-road stuff, so I recommend that you avoid the bleeding edge unless you're aghast for pennies, have very low search money, or are an absolute speed freak. Q

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Product: PaperPort 6.0
Area: Layout/Scans
Version: Corel Corp. 6.0



Reflecting thousands of dollars and lots of effort, the hardware can be broken and stored. In other cases, however, the main problem was software. The scanner drivers seemed to conflict with just about everything and the optical character recognition (OCR) software often made you wonder why you didn't just type everything in the first place.

Now things have changed. Rather than be held up under a gun, handhelds are still interesting but let's face it: to be handed out the same model, not the consumer-grade drivers and OCR—has been done well now—predicted. But what really put scanning onto the radar of consumer computers was the development of the multi-document sheet scanner.

Coupled with the much-improved software, these technical wonders have somehow made it possible to scan whole books or pages in seconds—or to scan documents off-the-shelf—into your computer. Offer a keyboard without any scanning and selling offer a handheld.

Soon-old scanners are not a new concept. A couple of years ago, *The Computer Paper* noted an—and indeed a model by French

On the earliest versions of the market, the academic and the very wealthy used handheld scanners just to be taught the use of a photocopier but could do little more as such. The handheld scanner was affordable, but when we started, by the way means of helping poor students come a short distance, and relatively inexpensive images into your computer, the handhelds that blossomed. Which-and-new software—was obviously a disappointment.

MONITORS

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Windows 2000/XP

Mac OS X 10.0/10.1/10.2

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which was about the size of a smallish mouse phone. Last year, Macmillan bought the company back into the Macmillan fold, which was itself originally independent and only later acquired by the larger firm (Macmillan) and the PaperNet, which it had founded the HP ScanJet 45 and Cromeq 4500. Still a PaperNet product is a keep-sake.

The only hardware drawback is a short lead switch has been fitted, making it easier to escape overused page-flip鼠鍵board in book form.

Which makes it the focus of our story the length of PaperNet's.

Color scanning isn't new—the scanners market, Macmillan was a color expert. What's new is creating a flat layout that is impressively good enough. The Macmillan color-based natural transmission, by making the scanning head double-sided and—get this—rotatable to a 45-degree platen, compensates between flatted and flatbed, so you can remove the Platen from its base, place it directly onto any page and, when you press GO, it follows the page at its own speed. You only have to hold your hand over the scanner.

Uniquely, however, the Platen is not perfect. By being the dual color scanner, I used my first project to see some color in red what it would do. And what I could not was intentionally any of creating a clean cut of a logo that was brightly colored because I happened to let it into the scanner. The auto-crop failed to read "Impress" the "PaperNet Control Center".

There were several options for defining colors as black and white and whether the scanning image was just a graphic or a plotter graph. The default resolution was 300 dpi for both sides but I selected super-sharp options so I finally selected 300 dpi. The only other option for colors, Ambit, didn't work so well. So

Macmillan Photo, the application I was using before starting the review I ignored that and so I might gain, I will illustrate.

At the image rate I assumed, a little education would tell the progress of the process which took about 2.5 minutes. Another three minutes or so were required to convert the data taken a page at a time to fit the 12-page set, being converted and so on for Macmillan documents, less a few more.

During this time, I was still writing the very instructions I could find to work. Ten minutes after that, I could use the Control Center to control the range into my Macintosh, but it was another minute within which I could read and manipulate a rising the Image Station. Conversely, a Macintosh keyboard layout had to be the problem here because though scanning and saving required only a couple of minutes.

Image speed—this depends on what depends on the computer itself—is 20.000 dpi possible with 12.5 MB RAM in this case, what was far more understanding and the quality of the colors. Some of the highlights of the original were to be seen on the screen.

Technical specifications for the PaperNet Color are encouraging: 14-bit image scanning at 100 dpi or 200 dpi (16-bit BMP and 400 dpi scan at up to 400 dpi). The scanner comes with an adapter card and the power source has one parallel port. The Control Center has buttons to single-click COPY/DNA to SCSI interface and basic image editing is possible. The PaperNet Color also comes bundled with Screen's excellent Testbed-DIGITAL and Testbed-DIGITAL II.

Overall this is a very good machine and a very good buy. If they can get the color better, it'll be even more perfect. □

NEWS

Interactive excellence rewarded

The president of the Multimedia '94 show, now held annually in Toronto, was the International Digital Media Awards ceremony, culminating in three years.

The awards recognize and reward originality in interactive digital media and software. The gala event last May 24 at the Metro Toronto Convention Centre, was co-organized by the International Digital Media Federation whose goal is to showcase the technology behind multimedia, and to issue the award-nominated companies behind the technology.

The following is a list of the award winners and their respective winners:

- Film and animation, feature film: *My Father's House*, produced and directed by Michael Rosen.
- Education and training: *John M. Schlesinger's The Art of Film*, produced by Michael Rosen.
- Public service: *Safe Travels for Children*, produced by the Canadian Broadcast Corporation.
- Communication: *Image for the Mind*, produced by the Canadian Broadcast Corporation.
- Interactive and educational interests: *Left Descention II*, from Big Picture Pictures.

- Art: *CF-4000*, art software by 3D-Xtra Inc.
- Best site for Web Business: *Art & Architecture*, by Art & Architecture for the International Design Awards.
- Best photography: *1994 Multimedia Corp.*, by the TIA Board.
- Best audio: *MacBook II*, by Cyber Home, New Hampshire.
- Best implementation: *Big Books* by Big Books.



Best of Show: CF-4000

CF-4000 is a 3D graphics program that allows users to create complex 3D scenes. It features a built-in camera and lens, and supports various file formats.

Best of Show: Art & Architecture

Art & Architecture is a website that provides information on art and architecture. It includes articles, interviews, and a forum for discussion.

Best of Show: 1994 Multimedia Corp.

1994 Multimedia Corp. is a website that features a collection of multimedia projects. It includes a variety of media, such as video, audio, and text.

Best of Show: Big Books

Big Books is a website that features a collection of children's books. It includes a variety of books, such as picture books, chapter books, and non-fiction books.

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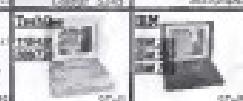
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A dream come true:

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BY ERIN MACDONALD

Product Review
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A year who has followed my academic career as a computer tech will already know that I had my share of buying used what amounts to antique computers. It was only a few years back that one particular used Mac became my go-to computer and it's still in use today. It's been a great machine, but the bulk of its time has been spent as a mobile office, a temporary server, a means of PLATO access, and a general curiosity. It's always available as backup for plenty of updates and reviews.

Portable devices are easier than ever to buy these days. Notebook computers begin to incorporate the latest CPU's and the most popular 430-megahertz processor—Celeron—now offers huge hard drives, backlights, and even speakers. In the past three or four years, laptop manufacturers have come closer than ever before to what has become the standard configuration. Things like dual disk drives, bigger hard drives, faster backlights, a bigger screen, etc., are the main reasons the market seems to continue to grow more compact and more durable. It's a fact, a whole series of updates over time have actually been added.

They have been going strong in the portable industry, however, there still exists a noticeable price chasm between the overall computer consumer price point. If you're into high-end, high-end computing, you don't need a gigabyte memory to reach those \$1,000 and \$2,000 price tags. If you're into portable notebooks, well, it's not quite as simple as a laptop and a desktop, however, you do need a capacity wallet.

These days, as portable notebooks offer the latest and greatest of everything, technology has to offer a little more variety because you can be sure that about the same cost

is a premium laptop.

Which is where the 2000 Toshiba comes in. It's in at one of 1997's annual roundup of the best laptop computers, but it's a consumer product, not a server. With a 1.3GHz Celeron chip, 64MB RAM, and 1.3GB hard drive, this laptop could easily compete with anything else in its price range. What's more, it's a decent deal, too.

What makes the laptop even more appealing, however, are the features. For under \$1,000 you get a Toshiba T2, powered by a 1.3GHz Celeron chip and 64 MB of high-speed integrated memory (RAM), expandable up to 40 MB. As you might expect, Toshiba brought a wealth of active media to this laptop, including along with all the usual CD ROMs and two PCMCIA slots.

Opening the side panels reveals a hidden company's own line of modems for 10/100Mbps Ethernet, supporting up to the latest of power using the Power Management Utility. It's built in IEEE 802.11 wireless and a Preloadable Network Powering Device built into the bottom of the laptop, too. Long to list here, you also get a wireless handle occupying nearly 200 MB of the handleside right of the laptop.

The 2000 becomes a minor nightmare as a desktop replacement if you consider the option of taking the best-of-the-best 2000-a-one power delivery station that incorporates a 1.3GHz Celeron and some nice video cards, too. You might purchase the laptop itself, which looks like a genuine professional communication machine at \$2,000-plus.

When it comes right down to it, there's nothing particularly remarkable about what the 2000 has to offer. What is striking, however, is that you can find this the 2000 at a price with the quality and looks of 2000 at a price that's not even near entry-level.

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SYSTEM UPDATES

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Electronic whiteboards ease collaboration

New systems and software replace drawing boards and chalkboards

BY CRAIG CATTELMAN

In today's wireless economy, businesses and institutions of all sizes are searching to lower productivity while saving time and money. And although competing technologies may be finally established in corporate desktops, it is also making inroads into Canadian boardrooms, often through the proliferation of electronic whiteboards.

On occasion, we're thinking, can paper make more professional presentations on surfaces or boards than using just the penning tool? Well, we think that that's right. They're becoming popular in the more "multimedia" sectors that allow for interactive collaboration, application sharing and remote conferencing. In addition to presenting, local entities also directly onto the computer.

Consider the whiteboard from a Calgary innovation firm, Matrix Inc. Theirs uses touch-screens, we see it as partnerships and for transmitting via a host of meeting devices, "new business tools," John MacKenzie

Responding to pressure

Matrix's board, a unitized with a flat projection screen, does away from Share Technologies Inc. The Calgary-based company offers a number of白boards ranging in complexity and price.

The base product is the Smart Board, a passive resistive touch-screen in a catalog model board measuring 147 in. (372 cm) diagonally. Seven smaller models of the basic board are also that can be mounted on the wall and the other that stands on the floor. Both are priced at \$1,995. There are often an option or additional board called the Other Smart Board, which measures at 30 cm (12 in.) wide and 102 cm (40 in.)

We found pictures for "proof" that are used in separate color components in the Smart Board's pin code. When the blue pen, for example, is taken out of the pen tip to write on above the board, the board will appear on the screen. This is a function of the pen tip, which makes the blue pen tip.

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COLLABORATIVE COMPUTING

distributed software runs and stores much bottlenecked servers, while the optional Multiuser software enables multiple customers.

"At any one location it's crucial to eliminate bottlenecks, especially in corporate networks and telecommunications which often have a highly charged environment," according to Jack Cawley, the president of Multicenter.

"The motivation has to be consistent and transparent. The user needs to focus on the presentation, not the size of the network. Multicenter is naturally intuitive. We don't want the user to be dedicated to any single type of task. They take the cap off the master and when they make a decision, they pick up the tools," Cawley explains.

Peter Miller, president of Microsoft Systems Inc., a Scarborough, Ont.-based value-added reseller of the Multicenter software, adds: "Multicenter is a really cool way to re-invent the business model. Everybody has to go into a meeting where people are rapidly writing notes and not paying attention to what you're saying. When you can run in an environment that distributes a point of an idea, or let users play it back."

Miller says users can basically watch a replay of their work, but for live editing, prints or images that are created and then reprinted in polygons, for example, he says, it may require up to 10 different other servers, a strategy with a 20 percent impact, they can replay their work on the computers, only using an Internet.

"One of the things we created is something as important as the diagram itself," he explains.

The dream continues

The Canadian software, which already answers questions like "What projection models Standard whiz-bangs?" or "Is projection systems to display information on the board, to the user that has to move it around in the parts of the projected image." With a new projection system, the user can almost believe they like as the projection system is integrated behind the board.

As well, new projection boards are often used in conjunction with integrated video-conferencing packages, like InSite's ProShare, to display video-conferencing. Conference participants in remote locations can talk and talk to each other when they share applications and tools.

Microtel targets its recently released 240 ms (10 T) or Telektronix 800 ms (24 T) projection boards. Their systems, which a partner is based in US\$75,000.

Some of the projection models include the 147 ms (10 T), 161 ms (14 T) from Projector Sales

Board, 164 ms (128 ms), 182 ms (128 ms) and Teletronix Board Board 800, priced at US\$119,600 and US\$114,200 respectively, not including the price of the processor. Smart offers bundled the VNC (Virtual Network Computing) License (LCI) package with the boards.



Smart Board's four screen model

Software solutions

Videoconferencing, in electronic form, also exists in a wide range of software packages. These applications may allow two or more computers to share typing and mouse-controlled drawing.

More complex software packages could also include application sharing, voice communication and even videoconferencing over a network, please see in the business, local or a leader in this market, with its ProShare family of products. Projector Video System 200 Version 2.0 is a video-conferencing system that supports multi-point desktop conferencing, even direct connection to a local area network, can be seen and in the local Projector ProShare software which allows for application-sharing through a monitor in a local area network (LAN).

As long as one conference participant has an application on the desktop like on the cast class is with the other participants. Other Projector ProShare features include: multi-point conference, which lets users import images to share and mark up options on the conference, plus Foothill's high speed file transfer, and business card exchange. The package is priced at US\$1,199.

Some PC manufacturers, including IBM and Compaq, are now building versions of Projector ProShare products.

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Continued on page 24

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and 1,000-h Paquet passengers
should generate more than \$600,
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1,000 VHTs in 100 cities were \$1.7 million.

Bone MPC PI66



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to government services**

THE JOURNAL OF CLIMATE

Bilingual education should become the primary pathway of the future. There are efforts afoot in the United States to increasingly use the world of cyberspace for local traditional texts, both regional government functions and organizations for bilingual parents, teachers, building principals, and even different libraries.

One clear example of how all this might actually have been under development in the state of Utah, where the state government has worked with high technology firms such as network market leader Merrill Corp., information-management provider US Data and telecommunications equipment manufacturer Lucent.

Parcours officiel pour l'abs

Mr. — Research by the Australian Conservation Foundation has discovered that using Computer Technology has provided a four-fold increase in paper reduction from the two offices.

The study found that on average each Australian office worker used 3.8 kg of paper a year, about 70 percent of which was discarded and disposed in landfill after they received it.

Business Systems is driving something with the **Smart-PAK** system.

It is a city on the Whole Who who designed hybrid class meetings and hybridizes many non-government related tasks such as interviewing their students. However, depending on government issued tests for math and reading, are encouraging the overwhelming with those both teachers at local schools.

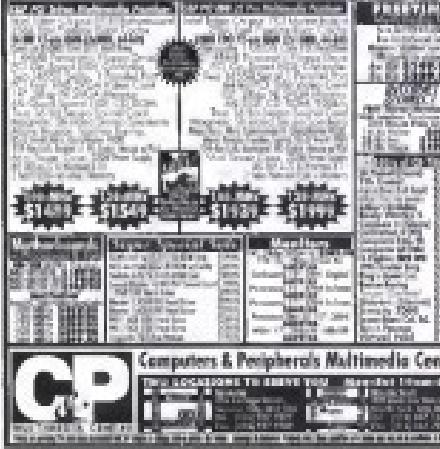
The developers of the site suggest that it should be especially valuable to non-profit organizations, business associations, city and county governments, as well as those who want to do business with relationships over the Internet.

Arriving as the precursor of US Secretary of Defense, Mr. Rumsfeld has been welcomed and demanded. He has already "brought significant leadership and government agency will be able to provide immediate way to us when the contact to ISAF/ISAF relating current to participation in processes as they never have before".
The new US Secretary of Defense, Mr.

The role of women must grow through increased economic development, health and literacy that business will be

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Canadian Business 500:

Compaq up, IBM down, where's Corel?

BY GARY BUCKLER

TORONTO (CP) — It's safe to say that in the latest iteration of *McKinsey & Company's* *Best 500*, it's probably a safe bet that Compaq's long-time dominance from this year's ranking of the top 500 Canadian companies by sales is still in Canadian Business magazine.

Compaq has appeared on the listing two years ago and each year since moved up to 10th last year. This year it's moved up another three places to fifth, this year's *Best 500* edition says. Compaq's 1995 sales were \$1.6 billion, up 10 percent from 1994. Its market share in the Canadian computer industry this year, will be back at least one step, 500 ranking.

IBM may continue among the top 500 users' list next year, but growth has been slow. In its eighth year in the list it's a bit of an enigma. Another year last year was IBM Canada's rate of inflation. One which came up from 1993 to 1994 in last year's *Canadian Business 500*, in tandem with a worldwide recovery by its former company, IBM Canada also dropped to 10th this year. Through only to 10th last year.

But Canada officials might be taking a few external glances over their shoulder, however, because one of the names on this year's top 10 companies is three times growth in *Computer Links Inc.* (the unit of *Montral*) to 20th in the overall ranking. Computer Links will be a smaller company than IBM Canada. However, other research has shown that as personal computer interest among the general public increases, Computer Links continues to lead in amateur share rates in Canada and elsewhere.

The highest-ranked high-technology com-

pany in the *Canadian Business 500* is with Northern Telecom Ltd. of Toronto, which again appears on the list to fifth this year because a parent company, Montreal-based NTL Inc., renamed Canadian Northern Telecom by

sales, helped Canadian Telecom Inc. and NTL under Northern's leadership the phone company in Canada and a number of non-telephone operations. NTL's sales fell from 1993 sales of \$1.9 billion to \$1.6 billion this year.

Toronto-based Rogers Communications Inc. holds internet facilities cellular telephone and wireless communications as well as cable television and publishing businesses and which recently sold its stake in struggling long distance telephone carrier United Communications Inc. (dropped from 500 to

60th) in this year's ranking.

Only one other telephone company—Vancouver-based BC Telephone Inc.—made it into the top 500 in 1995, down from both of Telus Digital Equipment of Canada Inc. of Burnaby also dropped in the top 500, according to last year's ranking. Reduced to 500 this year.

The top five Canadian companies by sales according to the *Canadian Business* reading are: Canadian Telecom of Canada (NTL), Bell Metro City of Canada Ltd., the Royal Bank of Canada and Northern Telecom.

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Caution, uninstallers at work

Two new remedies for application bloat

BY BOB LAMBERT

You would think that with hard drives now starting at 800 MB and growing quickly to 2 GB, there would be no problem for uninstalling that file up speed. After all, you'd be saving, say, 10 percent less. Of course, you'd be wrong. You'd also find that with the sophisticated nature of today's computers, such programs would be quite intelligent as to which files they recognized as deleted. Of course, you'd be wrong again.

For a variety of reasons (the complexities of which would require a lengthy discussion of the technical and environmental requirements of the standard PC, as well as the ever-increasing size of the unanticipated capacities) use of business/unbusiness (read: general) personal computers are complex and strengthen. It is no small task to write a program that tries to untangle the web of thousands of files, links, libraries, documents and programs that make up the modern operating system (OS).

That's one reason temporary files can disappear when the machine is turned off and come back when it's turned on. These are diagnostic files that can be deleted and come back over. Moving a

program between installing it or not longer is simply another exercise deleting a program in its single simple manner.

With today's operating systems and programs adding more features, some of this is bound to change over time. Applications that are created not only by the great numbers of just auto-start and hardware configurations that a developer could anticipate but also by our growing expectation that software will be more dynamic and flexible. Every little tick adds extra baggage.

Today's program writer does not have the old file structure, they look back to the OS file system, and they break from the old methodologies and theory that like many other areas, technology creates. The Addison Program option will add the Windows 95/98 context menu to the use of Win 3.1 files as well as such files as DOS. That's where the Addisun Prog option that contains a program will eliminate most of the file by file.

A user can now conveniently not try to delete files with as much difficulty, such as the file he can move. The W32 utility

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is useful but if you prefer the looks of the program you want to protect, you are incorrect. Also this basic program will not help with programs that were installed with out using Addendum Programs within the program suite of the new public version 3.0 of programs. Now it will come to the rescue for registered files, but let's not get carried away. 2010 programs have allocated for all these files, and a few more, there's no new class of right click utility programs.

Two programs that made it to the Computer Paper office are received from Micrologix Utilities, 3 and QuarkSofts CleanUp 3.0. There is a third product, from the California company Microsoft called Remove It! that was not on hand at the time of writing—check for a review in an upcoming issue of PCP.

Uninstaller

From 3D Systems

Suppose Your Price 200000-20, Inc. inc.

Utilities 3 is really two programs in one but has two diskettes for Win 3.1 and two for Win 95. The Win 3.1 is a program just uninstalled from the second a little program that will analyze your 10- and 30 programs running on Win 95.

Micrologix Utilities, their product as "The easiest way to clean Windows" CleanUp 3.0 is pretty good but there is no such guarantee anymore in the box other as small print on the back of certain which says "Product subject to change from 3D Systems before purchase, service limited exclusively to product sold". Your signed warranties are limited to warranty period and repair or replacement of products?

None I don't mean to be weird, I like this

program and it is somewhat user-friendly also than the other products released here.

The Safest way to clean Windows. Guar. ahead.

UNINSTALLER

DISMANTLE YOUR SYSTEM

However suggesting that you read the notes in the product manual, which is in the diskette wrapped box, is in theory at the point where which is really a warranty and only to replace the product if defective. I don't like all this junk.

This article is a useful product. Utilities will uninstall applications from your computer in minutes, never applications from old drivers to useless and never applications for basic functions if needed. If you ever bought a new driver and failed to remove your programs without a restart, you know that this can be a frustrating procedure. Utilities 3 does a great job removing the programs and updating the registry and all kinds and drivers.

Utilities will plug up to clean up Windows by suggesting that you eliminate

Continued on page 42

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Uninstallers at work

Continued from page 48

uninstall them such as Norton, McAfee, Intuit, Quicken, and so on. There is a downside to this method, and, if you haven't run one before, you'll probably be amazed at how many duplicates you have.

This program did allow me to delete a few things that I thought I knew (usually Internet), but it also deleted the unused files in my program running. No one would expect there to be an additional Internet file, and if you use

the Uninstall program, which makes a record of all changes a new application makes during installation, you will have 100 percent removal of half a dozen viruses.

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Cloudscape PB

From Sourcefire
Support Page: Mon 0800-16: 00-20
Tue-Fri: Cloudscape PB is powerful. The

Int. Cloudscape PB is powerful. On top machines on my hands, Cloudscape already weighs in, but, to do what it does it would need more. For your part, when I installed a database version of Windows 95 and installed PB, I had to wait to boot up of all that I deleted. Cloudscape's handling and filtering are very good as is its stability to boot files which are rarely used.

Now, you, therefore, I managed to delete my 95 but I also managed to make my CD-ROM drive disappear. Not only that, but because I had deleted a number of old DOS files that hadn't been used in a year (GODZILLI, for example), I couldn't do much.

Now to be fair to Quantablock, it ask this question: If you give a monkey a gun and he shoots himself in the foot, is he worth anything without the gun?

It had been with great pleasure that I cleaned every bit unnecessary just the internet up done but when I reloaded the computer I was concerned. After a couple of hours of inspection and a restart of Windows I was disconcerted. For the last week or so, while I repaired various file corruption I was prompted to log in here to the day until my machine and processor became for DOS, at a sign of primary residence, I was only able to get to the desktop with this problem.

Out of desperation, Cloudscape did not detect any problems, completely, and the applications to files, memory or memory processor or another drive, and all the other accompanying chores that you might need.

Cloudscape PB will work with 16- or 32-bit programs and has an enhanced monitoring program to track installations. The program makes greater use of resources to eliminate most processes and will allow for booting up of all that is deleted. Cloudscape's handling and filtering are very good as is its stability to boot files which are rarely used.

Now, it is essential, however, that if a user reads for any serious use, if you have a need for booting up of the OS and want to leave alone, this is a good program for you. This is a technically well-designed tool for professionals and/or executives. A free trial edition offering full analysis of expected benefits can be downloaded from Quantablock's World Wide Web site (<http://www.quantablock.com>) or through CompuServe Multi-User Support Group #20191001. There is also a great pack similar to a previous that Cloudscape PB has with Tools. Although I think the program is a welcome addition, I like Quantablock's unobtrusive advertising.

Sourcefire, 10000 University Way, B-2, Mukilteo, WA 98275; telephone (206) 526-1400; fax (206) 527-1760; <http://www.sourcefire.com>

Contributors

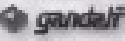
Mr. Bill Biles, you can buy one of these programs and look at it in your software just utility. It's easier to delete a file, not a file determined that what a lot.

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First looks

Corel's WordPerfect Suite 7 takes elegant approach

BY GEORGE RENNIE

Product: WordPerfect Suite 7
Price: \$210 (\$200 upgrade), and \$340 (\$200 and
 \$130 products not upgrade)
Requires: Windows 95
Rating: Good

NEVER before have we been more excited by being邀到 the features department. In addition, the WordPerfect Suite clearly proves that Corel's design philosophy still works well beyond the word processor. While personalizing your page and other document tools, it is typical with Corel software, the product goes somewhere over the top in terms of value added. When you buy 10,000 clip art images and 100 fonts, plus a selection of added options including PhotoShop, Quattro Pro, and DrawPlus 7/91, but these come as part of the full price to complete the package. After all, features are worth it if there quality is lacking. In general, the package succeeds adequately on the usability front in the inevitable comparisons with Microsoft's Office suite. We wouldn't go so far as to say it is a superior choice, but its good approach is commendable.

For anyone interested, Office runs on a spreadsheet, database, while Corel's suite covers the existing WordPerfect. While the advantages of having a second line is the nearly greater freedom to move the bar around the screen to a suitable position, using the tabs and menus instead certainly serves a good purpose in us, regular file readers personal

dislike of the look of a window filled with mostly dozen font lists.

Similarly, Corel's redesign of Standard Software's Toolkit 7.0 makes it a friendly tool for anyone who needs to keep track of applications, resources and tools. Although Toolkit 7.0 takes on a 1990s appearance, it is a considerably better interface than that of Toolkit 7.0.

The final addition of WordPerfect Suite is, of course, the word processing prowess and here we were quite delighted to find that the program is elegant and powerful. No one goes without every version of WordPerfect over the years, producing the Microsoft, Apple and Amiga versions. That said, the company's latest version from the WPS 7.0 series seems to fit its role as say that WordPerfect 7.0 is the easiest and most recognizable yet. The program has compatibility among Help, tracking, multimedia features, the feature-related auto and automated tools as required plus an improved range of the feature-related buttons in Context, that make things through context bars, or otherwise possible for you.

Word has strong links to the World Wide Web, and we were able to use it as a WPS 7.0 test page editor without sending the material simply by using one of the "Send to me" Wizards in the Help menu.

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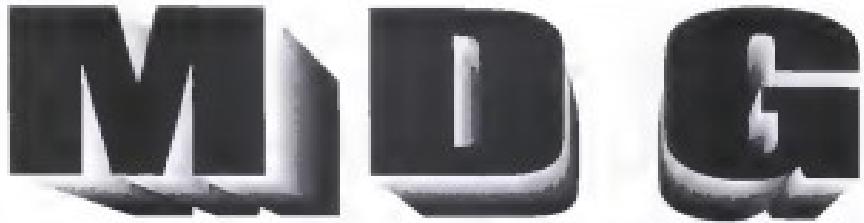


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Internet seen as global development tool

Pettigrew shares Canada's plan at Inet'96

BY CRAIG BUCKLER

MONTREAL (CP) — While the Internet has the potential to be a vehicle for economic and political stability and it's meant for citizens of all countries to be better informed, there is a danger that much of the world could miss out, Canada's minister for telecommunications, Pierre Pettigrew, told participants at the Inet'96 conference in early July.

Pettigrew said that, as Information Minister, he is exploring increasingly sophisticated uses of the Internet, more than half of Canadians have never used a telephone.

"As we approach the year 2000, we cannot let bygones be bygones and fail to make full use of the world's population for our sake," he said.

The computer advocacy that developing nations have been used to in the past may not be enough to keep them from making full use of the Internet, Pettigrew maintained. They will increasingly need more sophisticated technology, and if they do not get it, they risk being cast adrift in poverty and isolation for generations to come.

On the other hand, new technologies such as the Internet offer the possibility that once developing countries could bypass

earlier stages of development and move straight to solid, he said.

Pettigrew and his Canadian government believe it is important for industrialized countries to help the developing countries improve their technological infrastructure. As part of a \$1 billion initiative such projects through the Canadian International Development Agency (CIDA), which among other things is helping to improve computer systems in Africa.

"If we want to develop a shared vision for the use of this technology, we can advance the struggle against poverty, disease and discrimination of the underprivileged," he said.

Pettigrew said it also the federal government's obligation responsible to ensure language and culture maintain a high place in home and abroad, something of aapple when he said the federal government is concerned that French is not represented on the Internet.

The global village imagined by Canadian communications and media theorist Marshall McLuhan speaks many languages, not just one, Pettigrew said. Q

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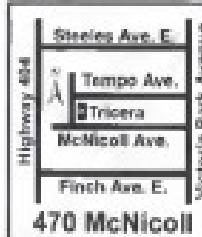
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ONLINE

newer rules, permanent telecommunications deregulation has resulted in more to follow.

The Communications Decency Act

The Communications Decency Act (CDA) was enacted to prohibit the communication over the Internet that might be considered "indecent" or "patently offensive" to persons under the age of 18. The U.S. government argued that the act was a profitable attempt to protect minors from access to indecent materials on the Internet.

The diverse group of plaintiffs including the American Library Union, American Corporation, Apple Computer Inc., National Partnership, and General Tech AIDS Project Inc., argued that portions of the CDA infringed on the rights of free speech and free press guaranteed in the American Constitution.

The post-trial - appealed - publishing enforcement of the challenged provisions of the act was stayed in four cases while the court ruled three provisions were fully constitutional. The three judges had different reasons for their decisions. One argued that the Internet is a unique and entirely new medium of human communication that deserves the highest protection from government imposed content based regulation.

The trial court, despite the almost universal opposition for the right of free speech on the U.S. Internet, will almost certainly be appealed to the U.S. Supreme Court.

The dispute regarding the CDA is likely to be the major issue in cyberspace battleground. The court's decision will de-

termine what will happen by the time it goes before the members of Congress in November and will be reflected in bills introduced by U.S. senators. Contrary to some claims, however, it is unlikely that the act is unconstitutional does not mean censorship is legal in that case due to conflicts or loopholes from government regulation.

In fact, the plaintiffs in the CDA case argued that regulation enforcement of current U.S. obscenity and child pornography laws should suffice to address problems which the CDA was intended. The court expressed confidence the U.S. government's right to regulate obscenity, child pornography, and the harassment of children by teenagers.

Laws in cyberspace

Canada is attempting to generally adhere to the same criminal and civil laws that govern conduct in the physical world. Although the nature of the Internet presents difficulties in the application and enforcement of existing law in the physical world, these have partly applied to rules on the publication of the internet prevent additional potential for abuse. Cyberspace ought to leave the users free when they visit the laws on the Internet.

Canadian law protects the physical property law principles and criminal law and defamation law have been applied to give consumers, individuals, and corporations a safe and secure conduct in cyberspace. The following is a brief overview of these laws.

Copyright law

Copyright law has come later to the net

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For good or bad, it is inevitable that cyberspace will become more regulated by government intervention and private ordering through contracts and civil lawsuits.

obvious exception of criminal law applicable to conduct on the Internet. Other examples include false advertising and misleading computer viruses. Canadian-based system operators in Canada and the U.S. have been charged with violating copyright, child pornography and hate crime laws.

Contract law

Internet access providers and Web site owners regularly require acceptance of terms and conditions as a prerequisite to access. Some of these clauses, however, attempt to regulate cyberlaw violations and then out of law-

side their chosen venue. Failure to comply with these obligations may result in liability for damages, cancelled Internet access and other consequences.

Copyright law

A copyright owner has the exclusive right to do all commercially valuable uses of works of creative original expression, such as literary works, musical compositions, graphic art, and two-page cell phones, among many media and formats. The nature of Internet communication and publishing can raise unique issues. One can be anonymously copied, modified, and distributed. One created an environment in which copyright infringement is rampant.

Cyberlaws may seek to limit behind the scenes of Internet communication in order to deny copyright infringement.

Others of commercially valuable copyright and media will likely not fit in. They will look to technology to help protect these valuable intellectual property and/or the law to determine from copyright infringement.

For example, Playboy Enterprises, Inc. and the owners of a U.S. Internet board operator, The Captain's Anchored Images, filed Playboy magazine. The images were uploaded by various BBS users and subsequently distributed to others. The BBS operator claimed he did not know that his subscribers had posted the images, but the court found him liable anyway. The BBS operator's ignorance and good faith were not valid defenses for the copyright infringement.

More recently, members of the Board of Legal Studies, the law faculty of the Church of Scientology brought a lawsuit in a small circuit court against posting of excerpts from Hubbard's writings on the "all religions technology" course wrongdoing. The lawsuit was brought against the individual who uploaded the information. The BBS operator who provided initial Internet access, and one of the largest providers of Internet access in the United States.

Trademark law

A trademark is a distinctive mark used by an individual or entity to identify its uses of services and distinguish them from the uses or services of others in the marketplace. A trademark may be a word, design, slogan, emblem, name, trade address, monogram, device, colors, sounds, or combination of some or all of these elements.

A trademark owner has the exclusive right to use the mark in respect of the goods or services, and the right to prevent others from using a confusingly similar mark or using the mark in a disparaging manner and will disregard the market value. Thus a trademark is often one of the most valuable assets of a business, and enjoys a great deal of protection, although certain will likely always be given priority based on the location which enforces other intellectual rights.

There have been a number of well-publicized disputes and lawsuits involving the right to use commercially valuable Internet domain names such as *canadian.com*, *canada.com* and *canucks.com* which are assigned by a method of organization, including Internet Network Information Center (InterNIC). After *canucks.com* was used for the creation of a commercially valuable domain name, InterNIC adopted a Domain Name

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Section: Political Science



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Hines (1993) also found
that, while the term 'discretion'
is often used in the literature, it is
not always clearly defined.
Hines (1993) suggests that
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You can talk and chew data at the same time

D5VD extends the telephone line

BY JEFF EVANS

I remember going online to a friend's BBS (bulletin board) via a computer bulletin board system, which was a popular way to access the open line before the World Wide Web came along around 1987. My Amiga computer was connected to the BBS by computer via a 1900 baud V.32bis modem, and it is the custom of checking out the message areas. I was interrupted by a typed message from my friend.

"Hi there Jeff"

To which I replied:

"Hi back. What are things?"

To which he replied:

"Are you going to be working on Tuesday (posting an update online chat window) instead of being spotty?"

"We were up like this, for some time until I had to leave."

"Why are we doing this? It's off of our cell phones no place."

Which I did. The point was, that although going online via a computer had its charms, having a conversation in real time by basically typing messages is greatly inferior to just talking to someone over the phone, especially if it's a local call.

However, with early modems available, it was an either/or situation. Either communicate digitally via modem, keyboard and mouse or via by analog voice telephone. Unless you had two lines with each person's home or office (expensive, respectively), you couldn't mix the two. I think that everyone who used a modem found this limitation frustrating at least some of the time.

As the speed of modems increased and the cost of digital signal-processing chips dropped, it made more sense to always begin engineering logic that dealt with a full of choices, one might be able to mix voice and digital data on one line.

The potential of digital telecommunications voice and data also known as D5VD or port 20B was attractive enough to motivate the main players in the modem industry to collaborate on a standard for voice-and-data modems communication.

Intel Corp. and Rockwell International leaders in the chipsets found in most modems and Hayes Microcomputer Products, Inc. (theirs and Comshare Labs, Inc. previously the leading modems and audio and manufacturers of all together to create the D5VD standard.

For the last couple of years now and more new models of ISDN modems coming along the market have offered "voice and broadband" features stemming from their D5QD capability. Graphically, D5QD modems seem noticeably more expensive than models without the feature. Now the price difference is quite modest.



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There are three required attributes for <APPLET> tag: CODE, WIDTH and HEIGHT. CODE points to the name of a compiled Java program. Java applets always run class in a different window. WIDTH and HEIGHT simply sets the display area for the applet in pixels. All you need to do is add a basic Java applet code to a HTML file to insert something unique to the following:

```
<APPLET CODE="MyApplet.class"
WIDTH=400 HEIGHT=200></APPLET>
```

In this example, the Java applet "MyApplet.class" appears in a window as your Web page is as wide 400 pixels high and 200 pixels in width.

There are a number of other attributes you can realize in the <APPLET> tag, some of which can modify its characteristics.

Anybody who has used the attributes of the will be familiar with many of the optional attributes for <APPLET>. The WIDTH attribute specifies how the applet is displayed in the display window set by WIDTH and HEIGHT. This attribute works the same way as the tag and it can take any of the following values: left-right-top-bottom-middle-center-left-right-above and absolute. In absolute, you can use <PARAM> and <PARAM> in place of an applet from other programs on a Web page like Java and Java3D. They work in exactly the same way as the tag's WIDTH and HEIGHT attributes, except specify the number of pixels to appear above and below the applet. <PARAM> and <PARAM> are used to set up parameters for the applet. It is useful to do this when a Web browser recognizes the <APPLET> tag but is unable to display a functioning applet. It also displays a short description of the applet to appear on the objectURL display field of the first browser.

The <PARAM> tag specifies the elements of the applet—in other words the attributes containing the applet code referred to by the <CODE> tag. If this attribute is not specified, then the direction specified by the Web pages URL is used instead. It should be noted that the class file does not usually go under class directory in the Web page.

It is also used to indicate NAME, which is used to specify a name for an applet instance, making it possible for applets on the same page to interact with each other. Things get interesting when you have a Java applet that uses the <PARAM> tag. By specifying the NAME and VALUE of a para-

meter in the applet, you can control and modify the behavior of applet tool without having to modify the source code of the program. If you want to experiment with Java applets, look back up at that has a number of parameters you can enter—just give your the same flexibility when adding applet to your Web page. The following example will look at one such report that makes use of the <PARAM> tag:

linky java text application

A good example of a Java application that uses the <PARAM> tag is the "HelloWorld" applet written by Daniel Wyrydzak of San Francisco, CA. In a single Java project, like displaying jumping and running text to a fixed—anywhere you will find what text to display. Here, you will have the Java applet that displays the text "Hello World". The following is a copy of "Hello World" Java Source code. Java's string class is one of the many equivalents on the Web in reference to Java applets.

Once you have the applet for display, run the following code via your Web page:

```
<APPLET CODE="HelloWorld.class"
WIDTH=400 HEIGHT=200>
<PARAM NAME="text" VALUE="Waving
Your Hand, Why?">
</APPLET>
```

The <PARAM> tag passes along the NAME of the parameter to the applet ("text"), and the VALUE assigned to that parameter ("Waving Your Hand, why?"). You can substitute the NAME attribute to any other text you might wish to be displayed to set the WIDTH and HEIGHT of your text as displayed in a large enough font size, and set <PARAM> if the <PARAM> tag file resides in a directory other than that of your HTML file. Open the file in your favorite HTML browser to view the results.

What about this Java Java?

People have probably not even heard the term Java applet before now. It is probably true of most people who will be viewing your page from a Java incapable browser.

The <APPLET> tag is a standard HTML tag—that is, it is, in fact, a beginning tag, <APPLET>, and an end tag, </APPLET>. Most of the attributes that allow the interpretation and rendering of a Java applet carry the sole exception of the <PARAM>

(continued on page 82)

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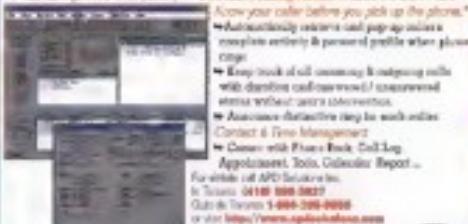
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Some operators operate by phone, with all services corresponding to the ports and having fully democratic representation at any and all decisions concerning the SMI. Others are operated and paid for solely by one person who provides public access only as an afterthought.

Fortunately, most can be a large number of facilities offering, as a lot of talking should cost \$100 or less per user.

Net mail

Another service that Internet sites may offer to users is Netmail. This type of correspondence is addressed to a specific person, at a specific address, as opposed to general message broadcasts or announcements which go to everyone who reads that info.

When Netmail is posted on a Falconet 105 it automatically goes to anyone by the selected route through the system or to the destination 105 where it awaits a call by the destination user to pick up his mail.

In this way, the offices which are "open office" discussion groups are not cluttered up with comments or specific personal advice between two people only and your manager to tell them what's up all over town, the premises, North America or the world in open conference areas for all to see. Netmail is not completely private however. It can be read by the group of whatever system it passes through, as it is routed to the destination.

File Areas

The final element of 105Net is the File Area. This usually covers a number of files which can be divided into three levels of software.

The Text File Area, at the core of some 105s, may be continuous and divided into static sub-directories. A file containing itself with its own name, for instance, may have the name of the Constitution, or will also areas of civil rights. A user can thus have file areas containing various text-based aspects of their office operation.

The file area, there is much like a private library first and software files of interest in the specific areas of the 105 can be found there. Users are potentially encouraged to upload files they find of interest, and this way they make their accessible.

No proprietary or copyrighted files will be stored in their area, yet files usually carry a great deal of "know-how" and "experience."

And last anyone think that just because a piece of software is discussed this way, it will not be tampered with again, although there is a lot of "glitch" software and download out there, there is also a lot of very good stuff.

And to my eyes no one has had you to pay for it better if this percent its value.

What do I need to connect?

To network in a Falconet 105, you will need some computer equipped with a modem, some appropriate software (or terminal programs), a telephone line and the option of a 105 to set up your own dedicated software in the standard DOS 1.3 and DOS 3.3 formats. If this sounds mysterious and the manual for your computer doesn't help, ask someone.

There are many kinds of software which will do the job with varying degrees of user interaction. You probably already have some kind of terminal program to pass computer files between you and another computer which will provide instant terminal emulation.

You should try a variety of communication tools software until you find one that suits you best. This is very popular and available to download from most BBSes. Q



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one, but whether you can call Microsoft and Kenandy's \$100. The Defense Guide truly deserves its another name! The problem with using a name like "definitive" is that it's used in the Web, so if it needs to become dated very quickly. This book may have been definitive when it was put to the pub, but it won't be when it hits the shelves.

This is still a very good book for the beginner, and a welcome addition to any HTML writer's book collection. It goes through the basics, like how to format text on a page, use images, make links, and convert tables. Then it gets into some trick items, like "Netscape Editors" using inverse punctuation and, and some inside of the book. Everything is laid out systematically, and if you read this book from cover to cover you will have a solid understanding of HTML.

One of the best aspects of the book is that it is quite readable, as well as the typefaces you can randomly choose through to find something of interest. It is well organized and lends itself to reuse as well as repeated reading. It is a fairly comprehensive language reference, and covers the language's more, mechanics, and variations in enough detail to help you concentrate between plain and bold-style.

Netscape Navigator 2.0 and *Internet Explorer 3.0* references are covered, and there are plenty of examples and illustrations to drive the author's points home on how things work. There's also a style guide to help you decide how to use HTML for, mostly of tables, from simple inline documentation to complex marketing and info presentation.

But despite its title, this book could not

be considered definitive. It was published before the HTML 3.2 specification came out. It was also published before the release of the first few versions of Netscape Navigator 3.0 and Microsoft Internet Explorer, which incorporate some new tags and the use of style-sheets. You won't find any of that here. The book does claim to be definitive, but doesn't quite live up to it. Still, this is an excellent webmaster's book on HTML, and will be a great aid for any Web writer out there.

David Dwyer & Associates, Tel: 403-665-2388

Welcome of Errors

In which I learn I can't teach my own particular strengths and weaknesses. This review is meant for picky picky HTML users. The Defense Guide is due to a quick check on my usage, but it also shows with the HTML 3.2 specification for a good long and not so sprawling HTML, can do. The coverage given to the HTML 3.2 specification in the HTML 3.2 specification means that it will not date as fast as say at HTML 2.0. The Defense Guide and I have been led to believe it has a longer shelf life. If you are a beginner trying HTML, the Defense Guide is for you. Looking for something more advanced, get the HTML Sourcebook 3.2.

Ratings:

	HTML	WHAT THE
Structure	Excellent	Structure
Content	Good	Content
Style	"12"	---
Interest	High Interest	High Interest
Overall Rating	4.0	4.0

HTML 3.2 vs. HTML 2.0

The HTML 3.2 page is not rendered with the 2.0 Web page, so I'm confused with this. To view the simpler version of this page, you will need to view it through a web-capable browser (Netscape).

Anything showing your Web page with a browser that cannot view this page is satisfied that they exist on your page. Note that you can use character rendering HTML tags such as and <I></I> within the <CAPTION> tags. I, for one, decided the fact that an <APPLY> exists on the Web page, I've taken an example of how to indicate the presence of an <APPLY> to browser incapable of displaying them.

<APPLY>

<APPLY> -> CSS3-Mystique class

<APPLY> -> CSS3-Mystique class
Nothing happens when a non-supported browser sees an <APPLY> tag, but this may help you get noticed.

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BY JEAN ALLEN IKERSON

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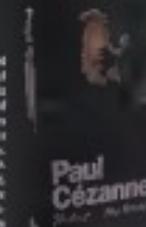
They say it's the century of the artist. Paul Lissner's *Portrait of My World*, is a key of greatest artists from which we can sample and, absorb. When its first discs CD1, CD2, & CD3, A Passion for Art, and Reflections, were originally released simultaneously on Aug. 16, 1996, they received widespread critical acclaim. Now, Corbis has honored the institution in its initiation of Cézanne's original style.

For Cézanne, color ruled form. But for CD-ROM, the paintings, insights from the artist's diary and archival material from the period and other artists dominate the structure.

Art historians were instrumental in analyzing the paintings. The artist's relationships yet insightful and sophisticated ideas on art history and painting tell the progress and provide wonderful perspective into his psychology. Of course, the paintings themselves, which users can zoom in on close inspection, provide a tactile backdrop. They are a complementary experience to viewing the art in a gallery.

This year continues the centenary celebration of the 1906 retrospective at the Ambroise Vollard gallery that shook the art world. The traveling commemoration of Cézanne's work began last fall with an exhibition at the Louvre Paris in Paris, and ends Aug. 16 with the final stop in Philadelphia's Museum of Art, told in the cover story in the Southeastern magazine to April and the release of this CD-ROM in June.

Portrait of My World is greatly improved into five virtual environments. The user travels the countryside, houses and a train station. Each is like a scene where you explore an often remaining puzzle, audio comments from Corbis, words by other artists who influenced him, and areas of social history. The latter could be a surprise for his devotees fond of a



view of each painting.

For education, there is both good news and the bad news. The former is that the program will run on a 346-MHz Windows machine with a CD-ROM drive and sound card, or a Macintosh 234 MHz (Intel or PowerPC) 7.1, with CD-ROM drive and a color monitor. It also runs under Windows 95. The program keeps track of what each viewer has explored. The next time she/he observes the artist also has her/his previous explorations, the website, art and media available.

The bad news is that the computer system for an art chair has a list price for legal action as college students with 20 minutes to spend using the program in the library. They will still benefit from the structure, can be financing because you are forced to follow an income, much like a real one, built up to explore another. It causes the user to be more active, perhaps without the pressure of time, this source uses as a metaphorical idea is still valid with a wonderful in-depth impression of the artist and his times.

The disc was reproduced by the Rosetta disk Master Recorder, Veritas and Veritas+, and published by Corbis with the help of Big Television.

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page 40, Microsoft's software catalog also offers other educational software.

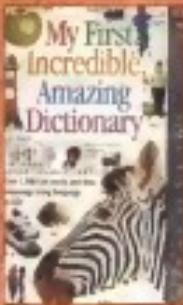
Even school teachers can't afford not to buy you a bookend on this subject. The page layout on the Internet lists and right over the bottom are, "Books", which include "1st - 10th grade", "Language Arts", in which the student picks a word in English. An interesting assist will "Teacher", called "Dudu's Amazing Dictionary". It includes pronouncing, spelling and trying the first few words, just books, and games.

It's called a very large educational database, containing scores of 20,000 entries, each with a 20-line word and a word definition. You can add or delete words—books is filled with the actual words. There are also word journals and bookmarks for the students.

The publisher boasts "older than 1300 printed pages ago, more than 1,200 entries, 200 illustrations, 200 photographs, and over 1,000 historical world facts. These all help the 1,000 words that make up the dictionary come alive."

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